

THE FAR EASTERN REVIEW

VOL. VI.

MANILA, SHANGHAI AND YOKOHAMA, MARCH, 1910

No. 10.

CHINA'S RAILWAY PROBLEMS

IN HER BORDER PROVINCES

BEANS, THE SOLUTION OF THE COMMERCIAL
SITUATION IN MANCHURIA



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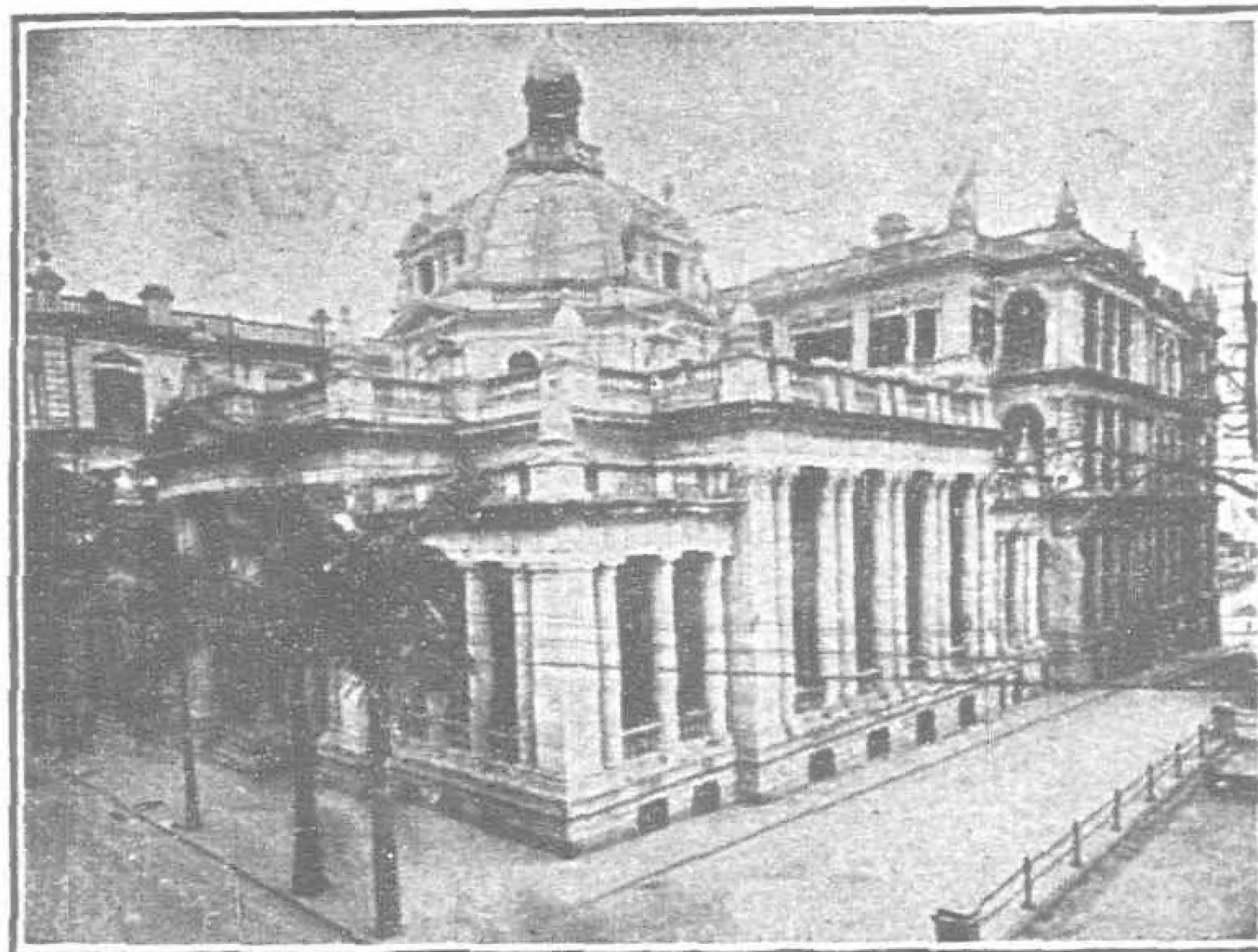
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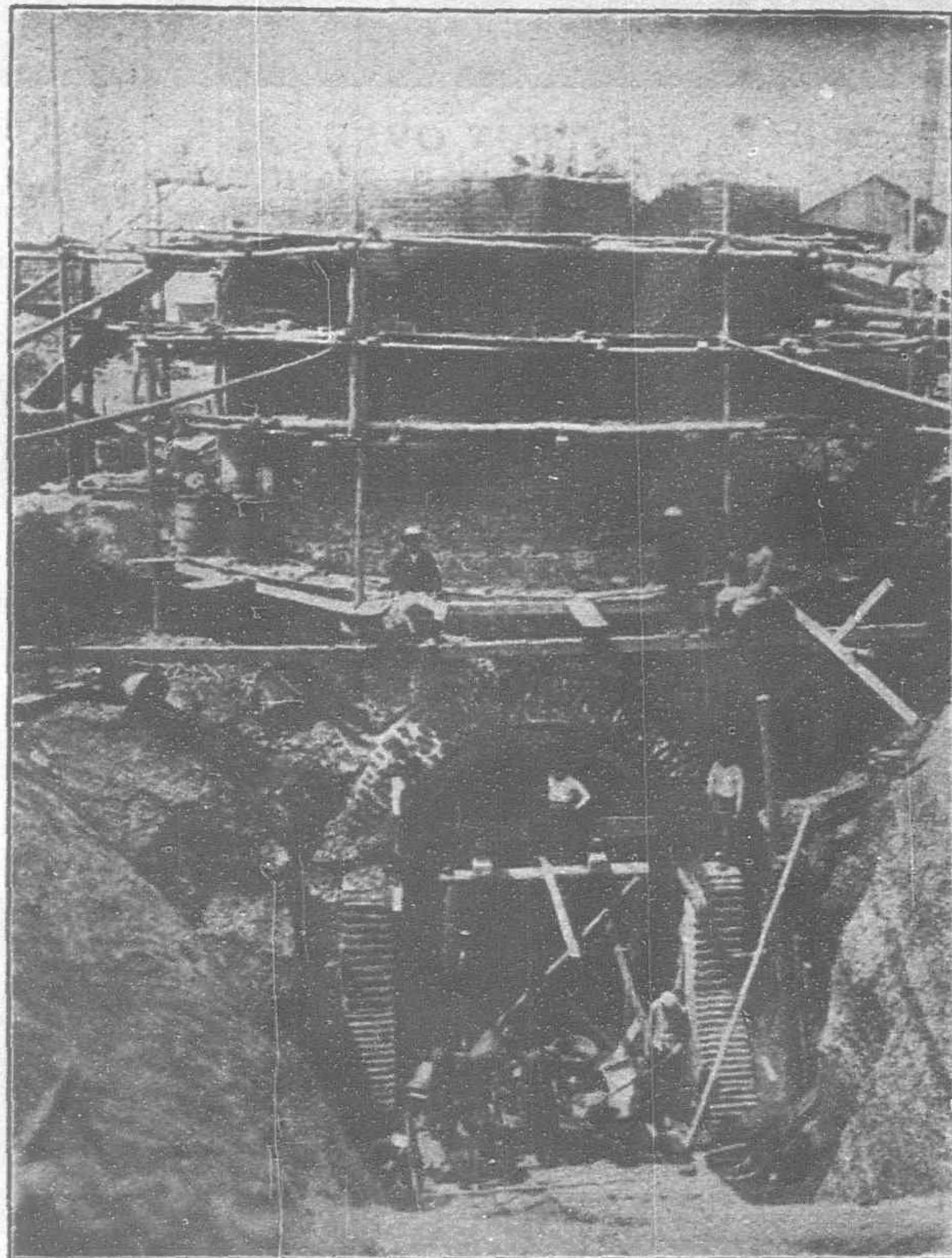
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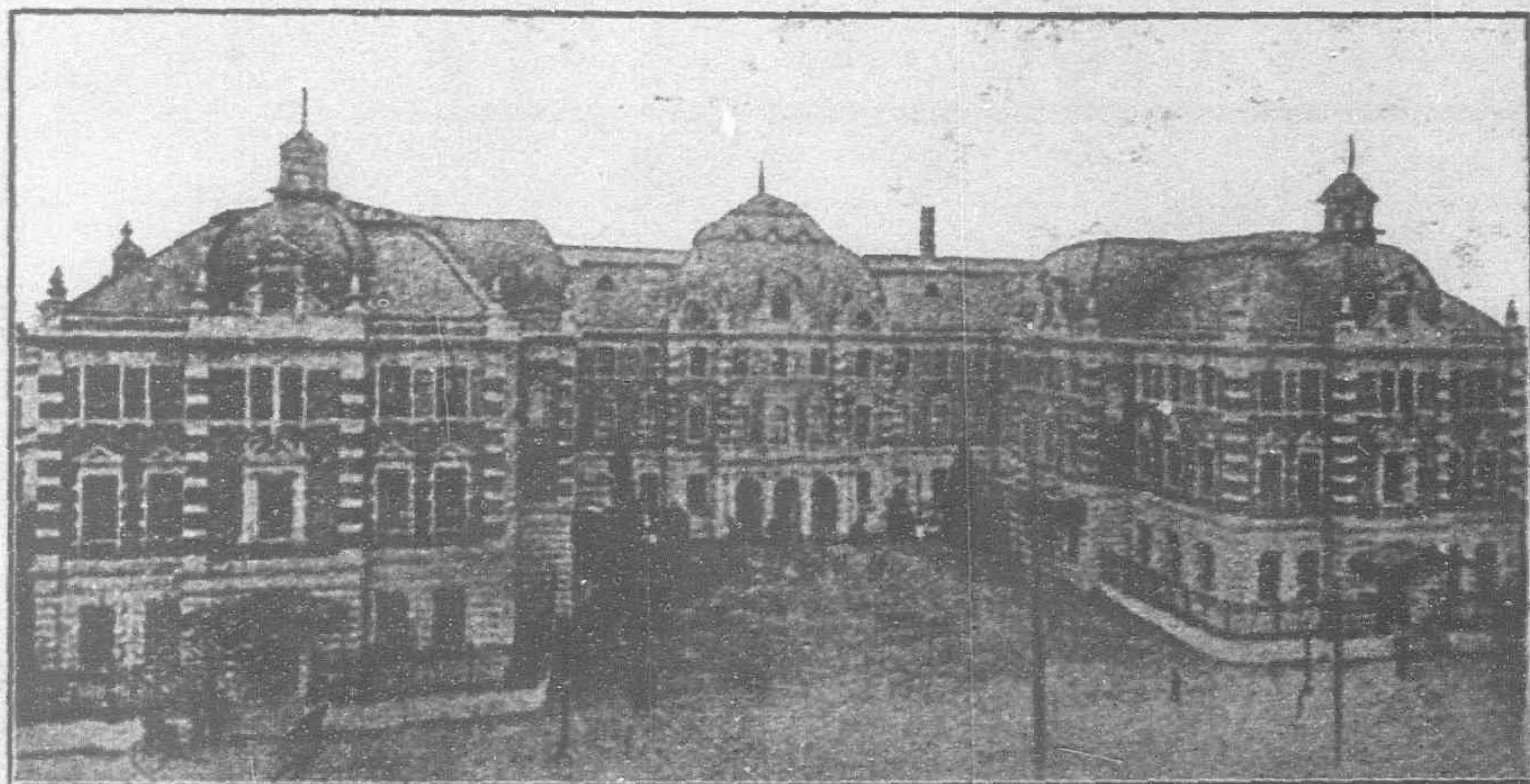
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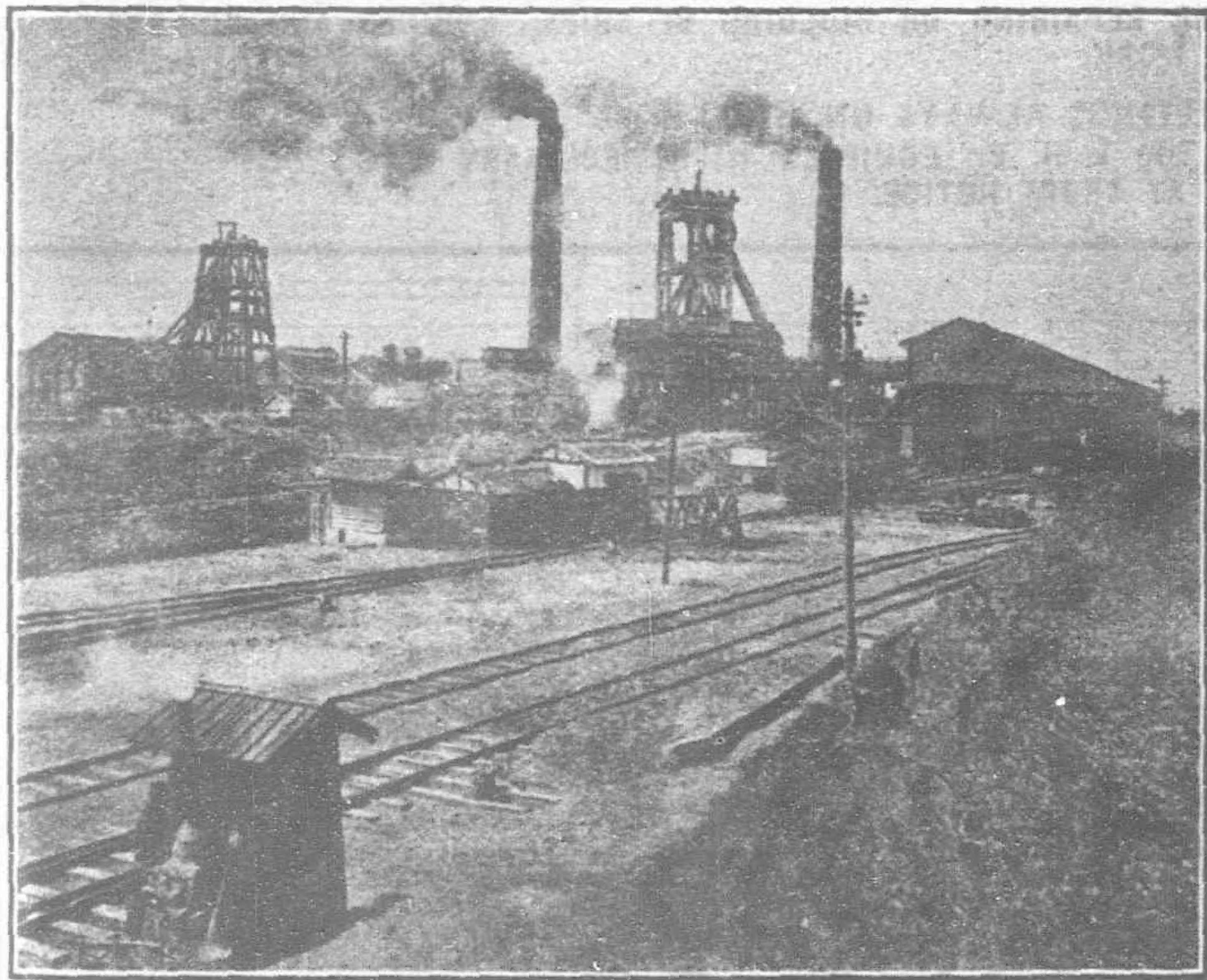
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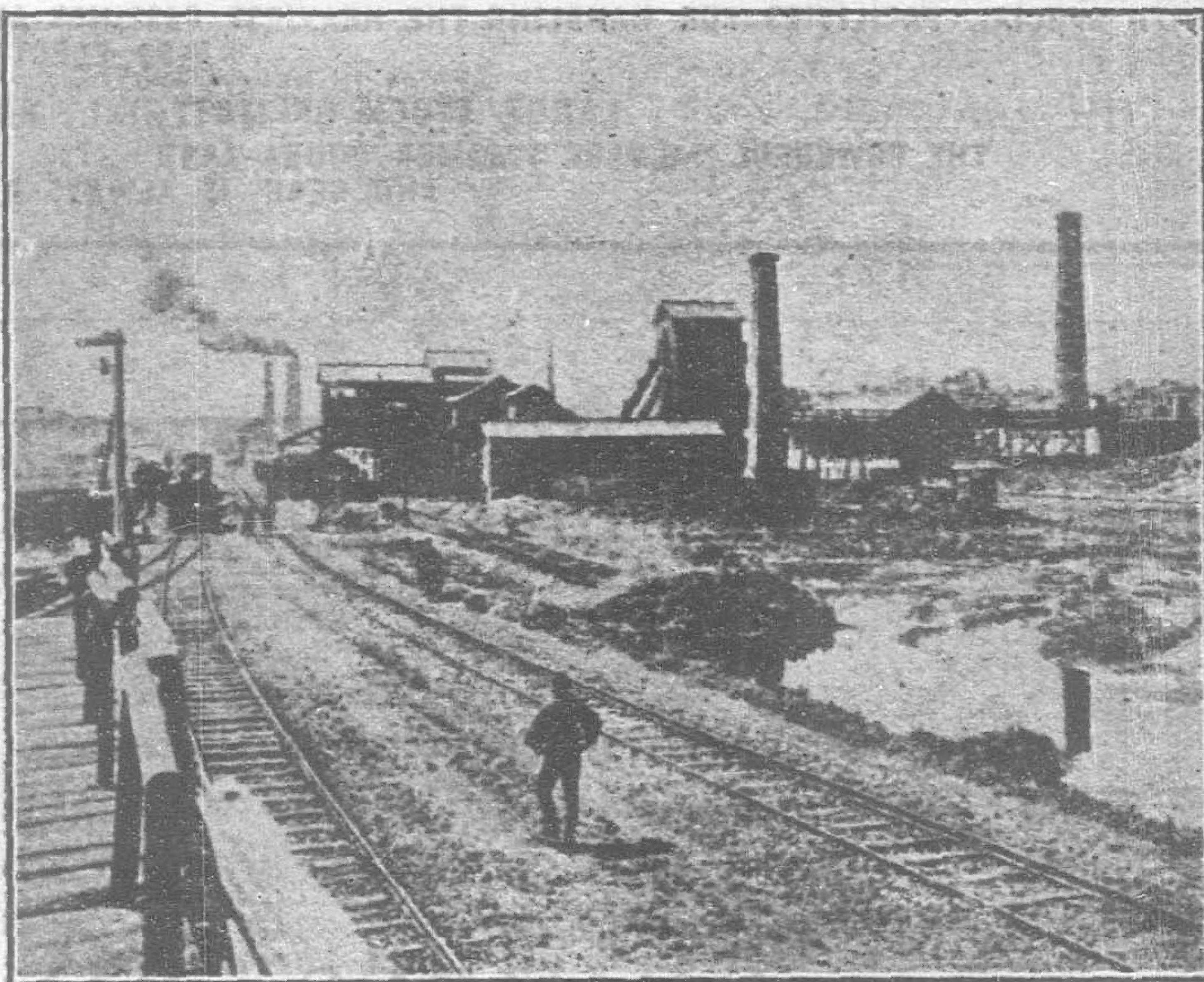
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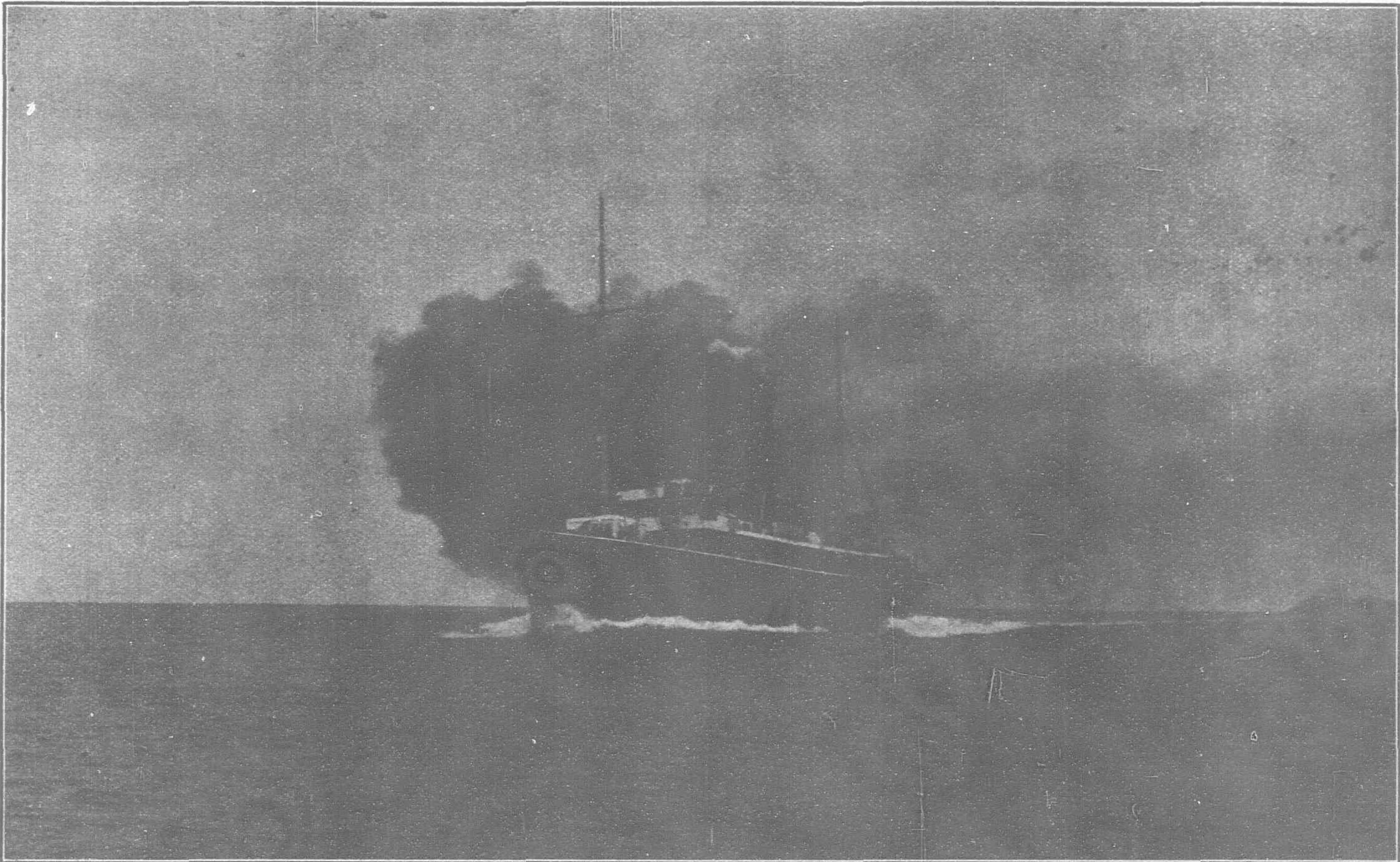
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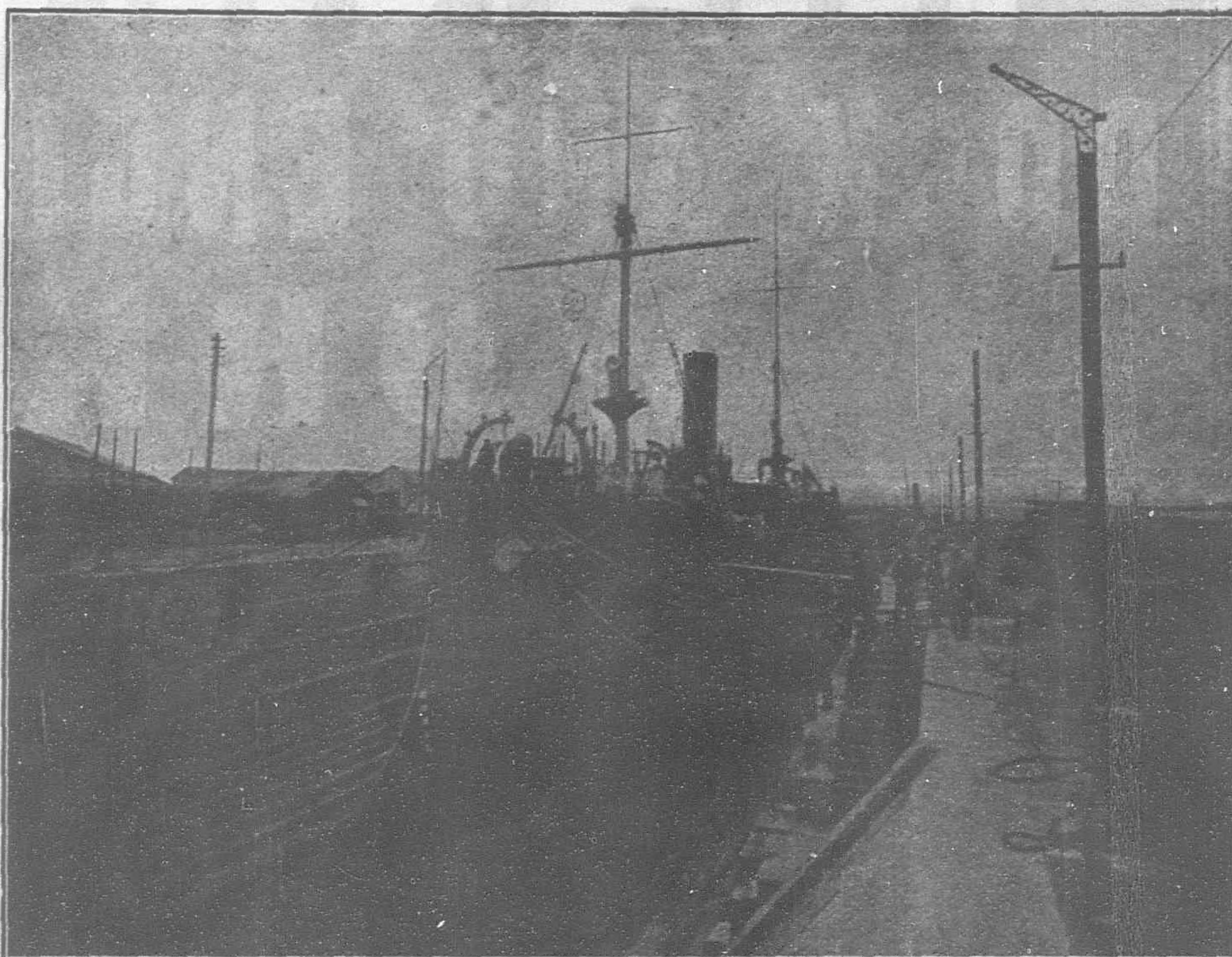
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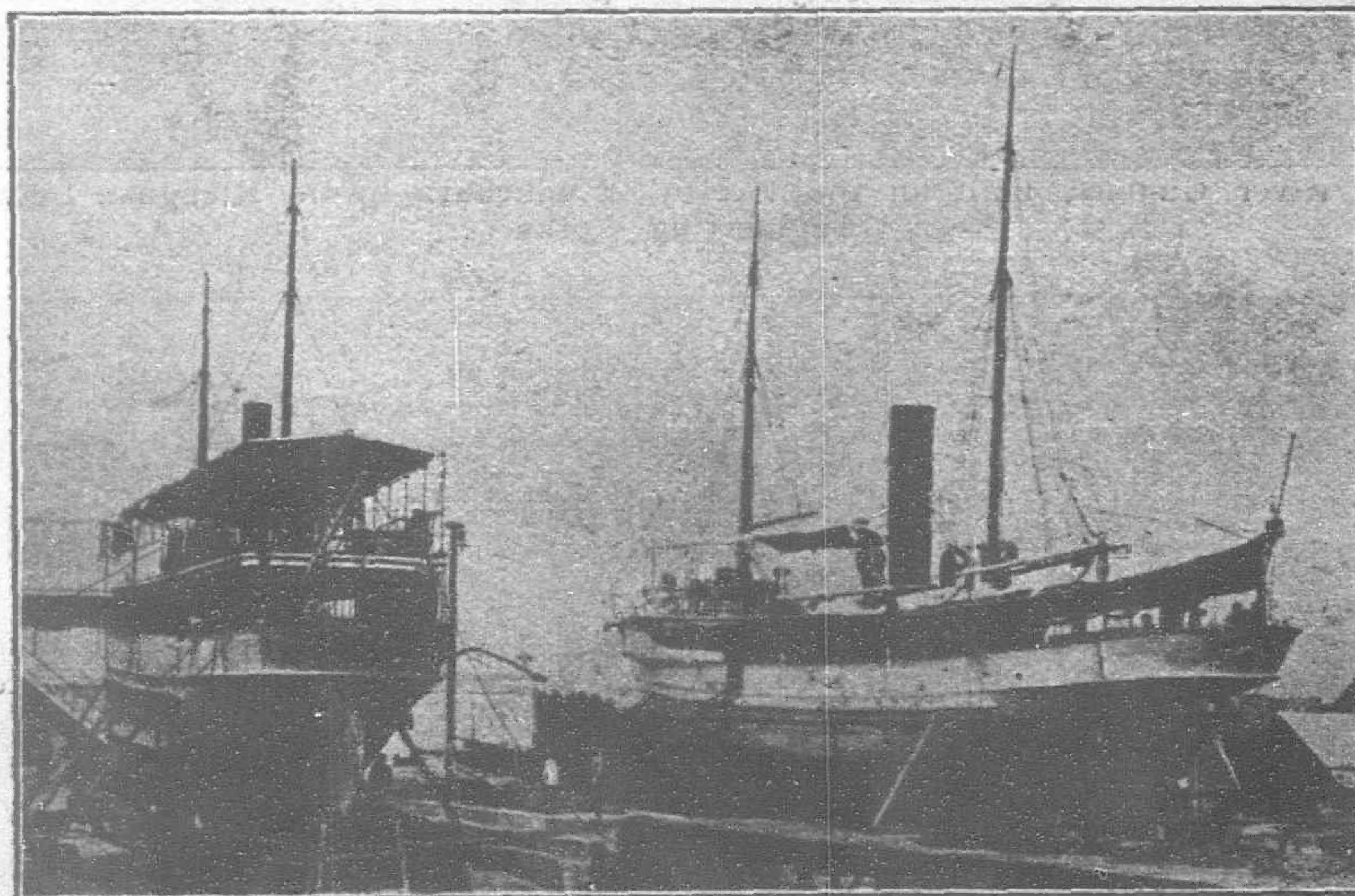
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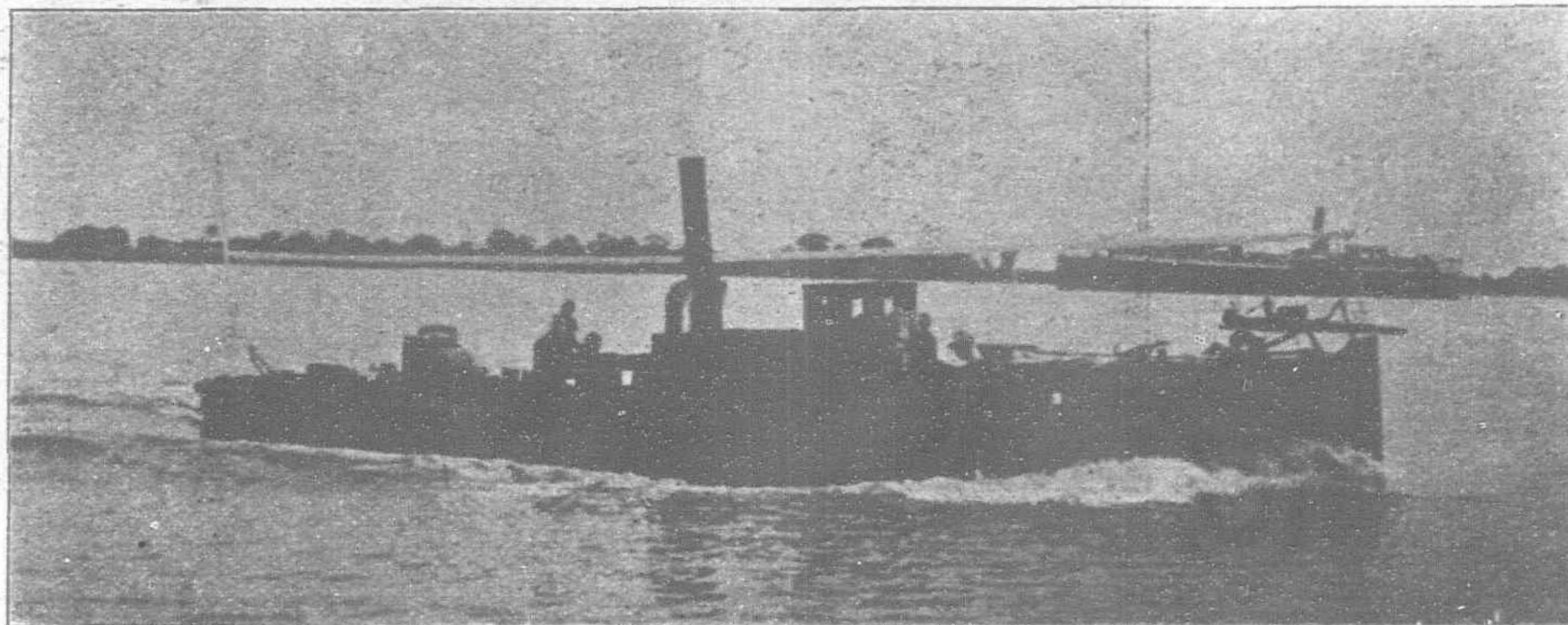
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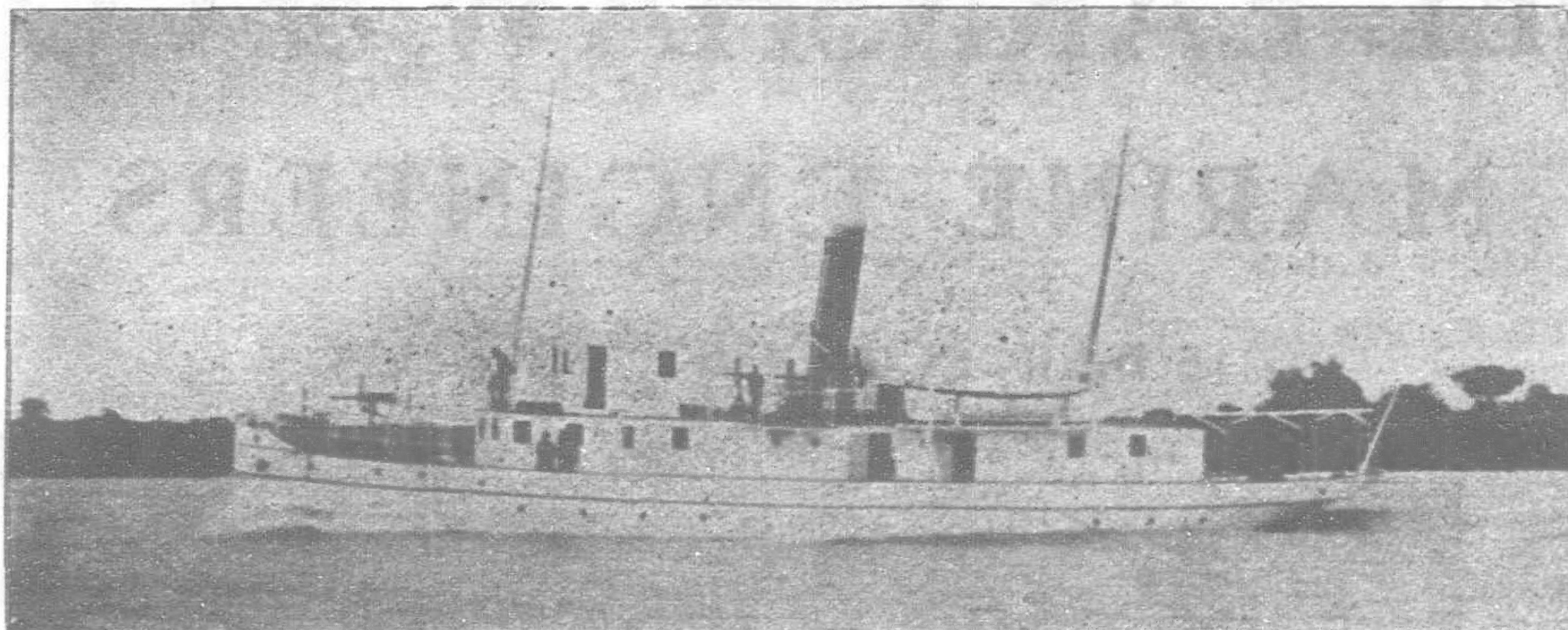
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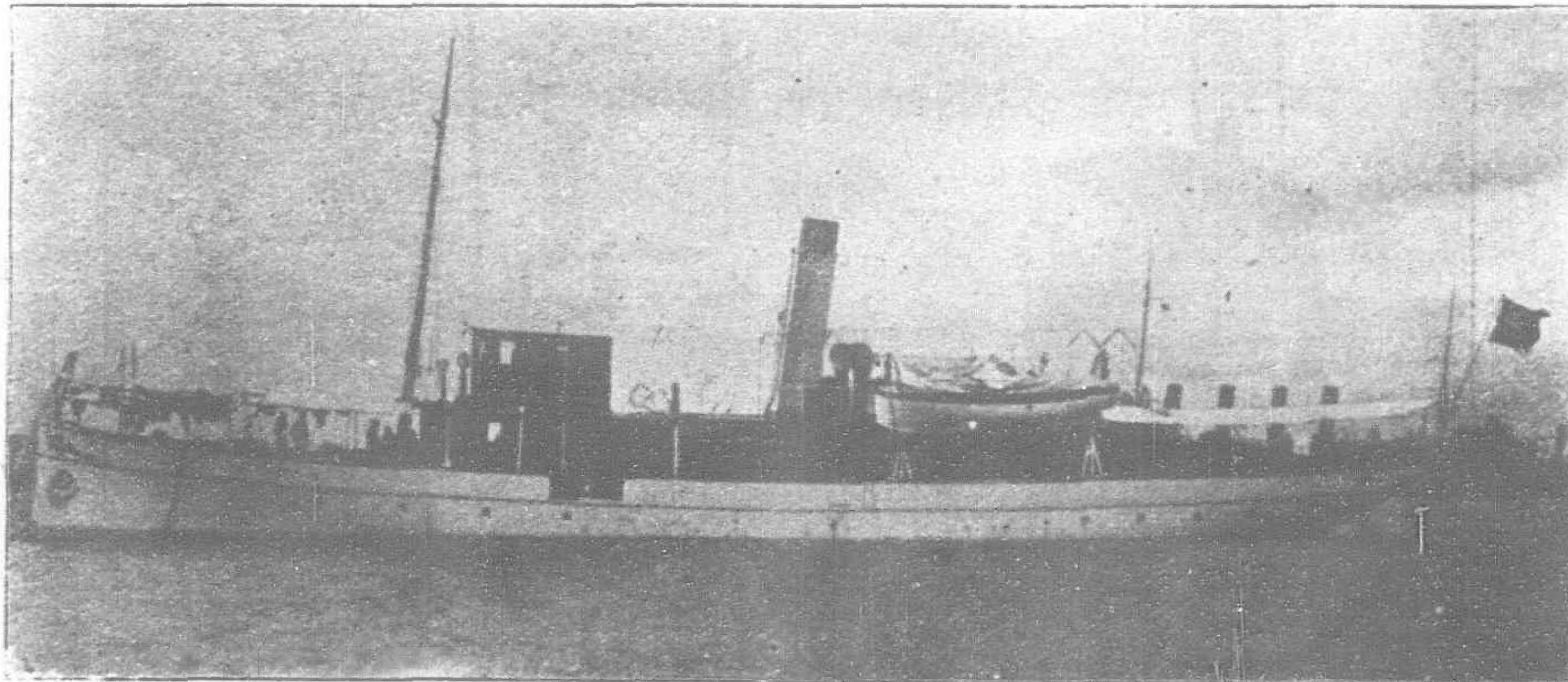
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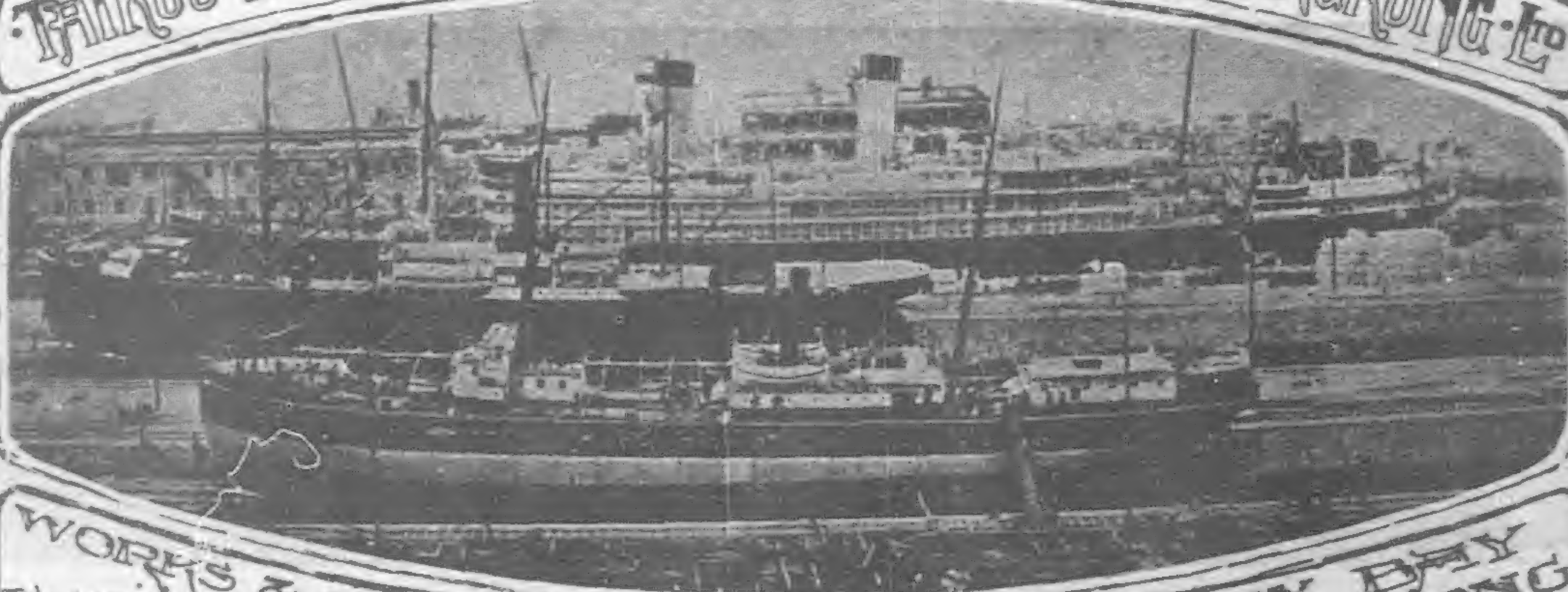
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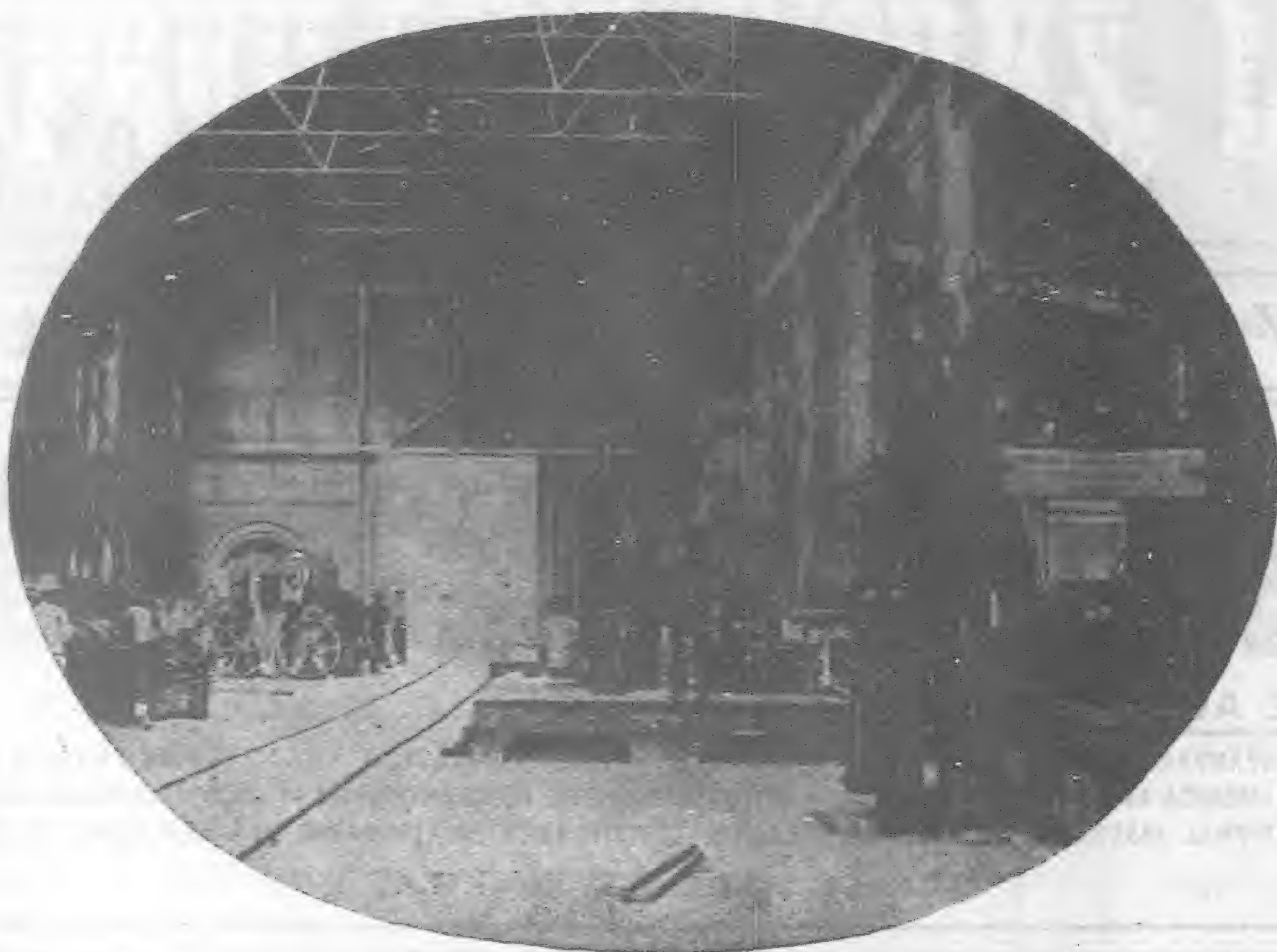
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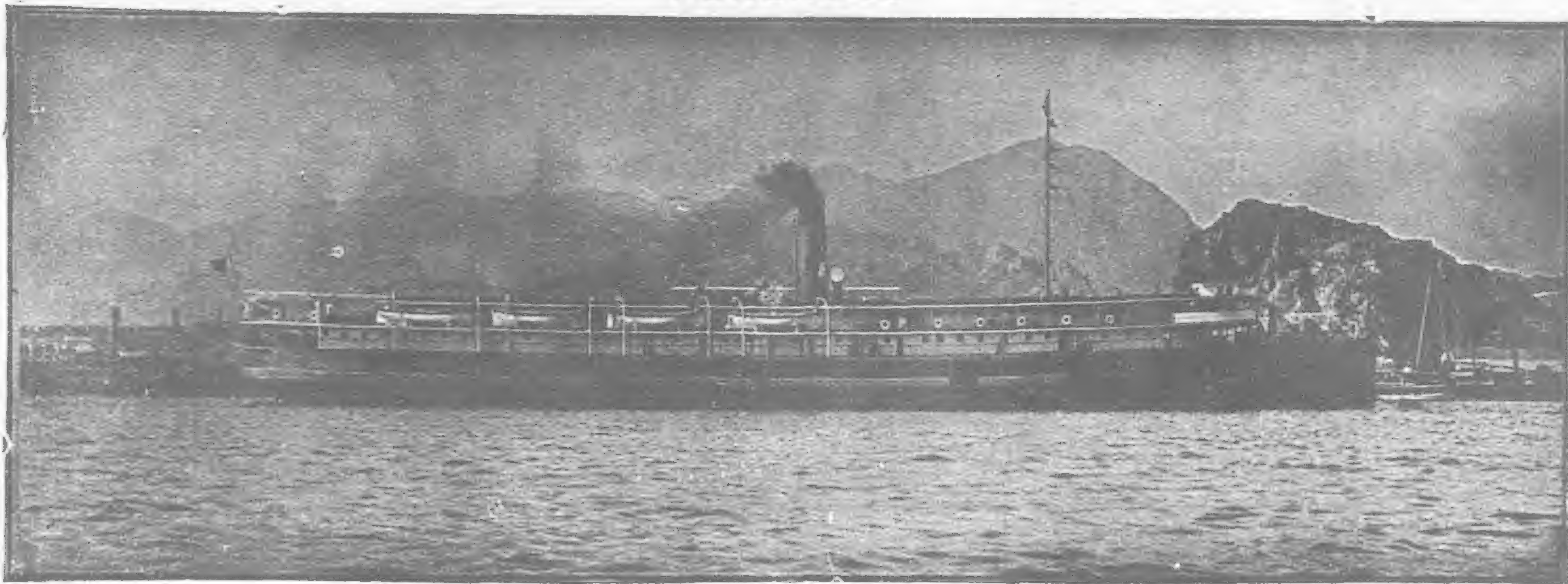
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Name of Dock or Slip	Length on Keel Blocks	Entrance Breadth	Depth Over Sill at Ordinary Spring Tides	Rise of Tide	
				Springs	Neaps
KOWLOON					
No. 1 Dock, Kowloon.....	576	<div>Feet</div> <div>86 ft top 70 ft. bottom</div>	<div>Feet</div> <div>30'</div>	<div>Feet</div> <div>7' 6"</div>	<div>Feet</div> <div>3</div>
No. 2 Dock, Kowloon.....	371	74'	18' 6"	7' 6"	—
No. 3 Dock, Kowloon.....	264	49' 3"	14'	7' 6"	—
Patent Slip, No. 1, Kowloon...	240	60'	14'	7' 6"	—
Patent Slip, No. 2, Kowloon...	220	60'	12'	7' 6"	—
TAI-KOK-TSUI					
Cosmopolitan Dock.....	466	85' 6"	20'	7' 6"	—
ABERDEEN					
Hope Dock.....	430	84'	23'	7' 6"	—
Lamont Dock.....	333	64'	16'	7' 6"	—

THE COMPANY'S DOCKS at KOWLOON, TAI-KOK-TSUI and ABERDEEN are in efficient working order, and the attention of Captains and Shipowners is respectfully solicited to the advantages which these Establishments offer for Docking and Repairing Vessels.

For Further Particulars apply at the Offices of the Company, Queen's Buildings, No. 1, New Praya, Hongkong, or to

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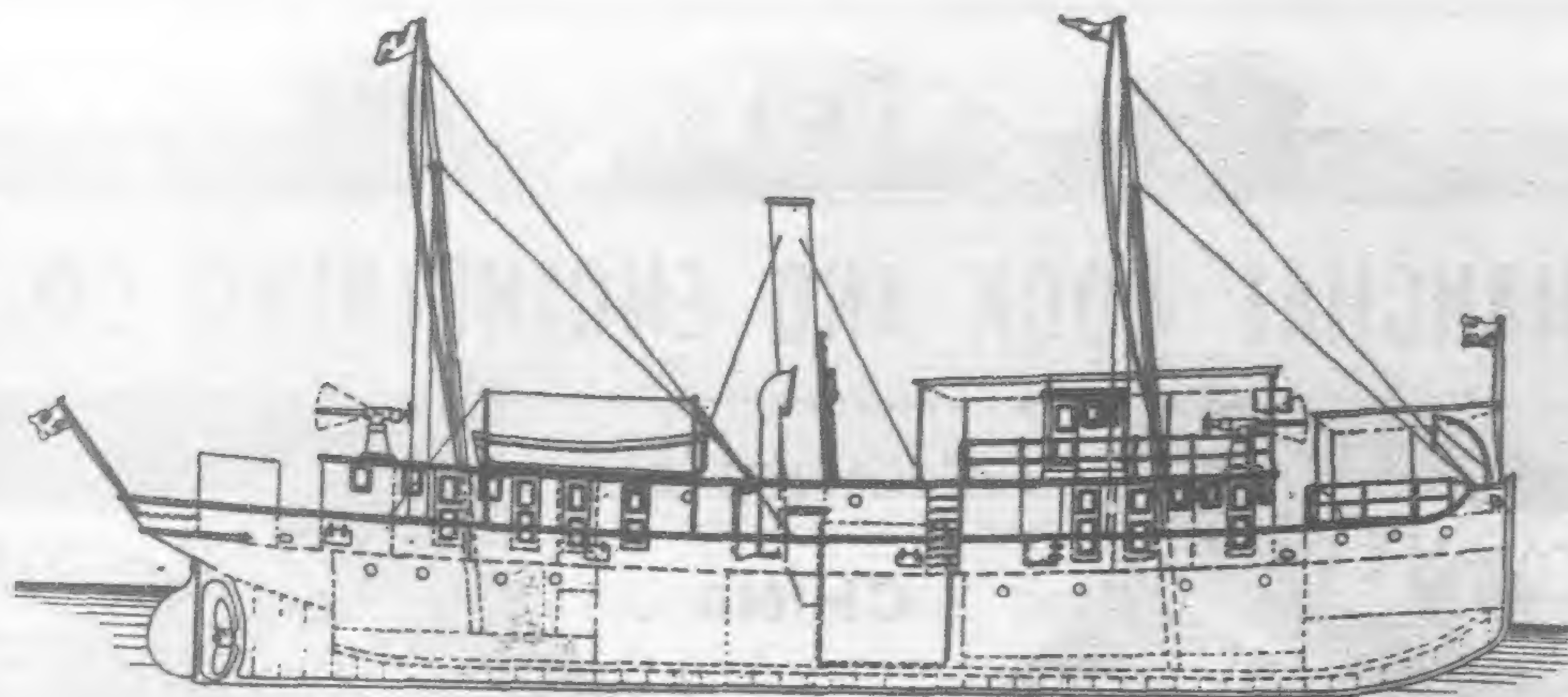
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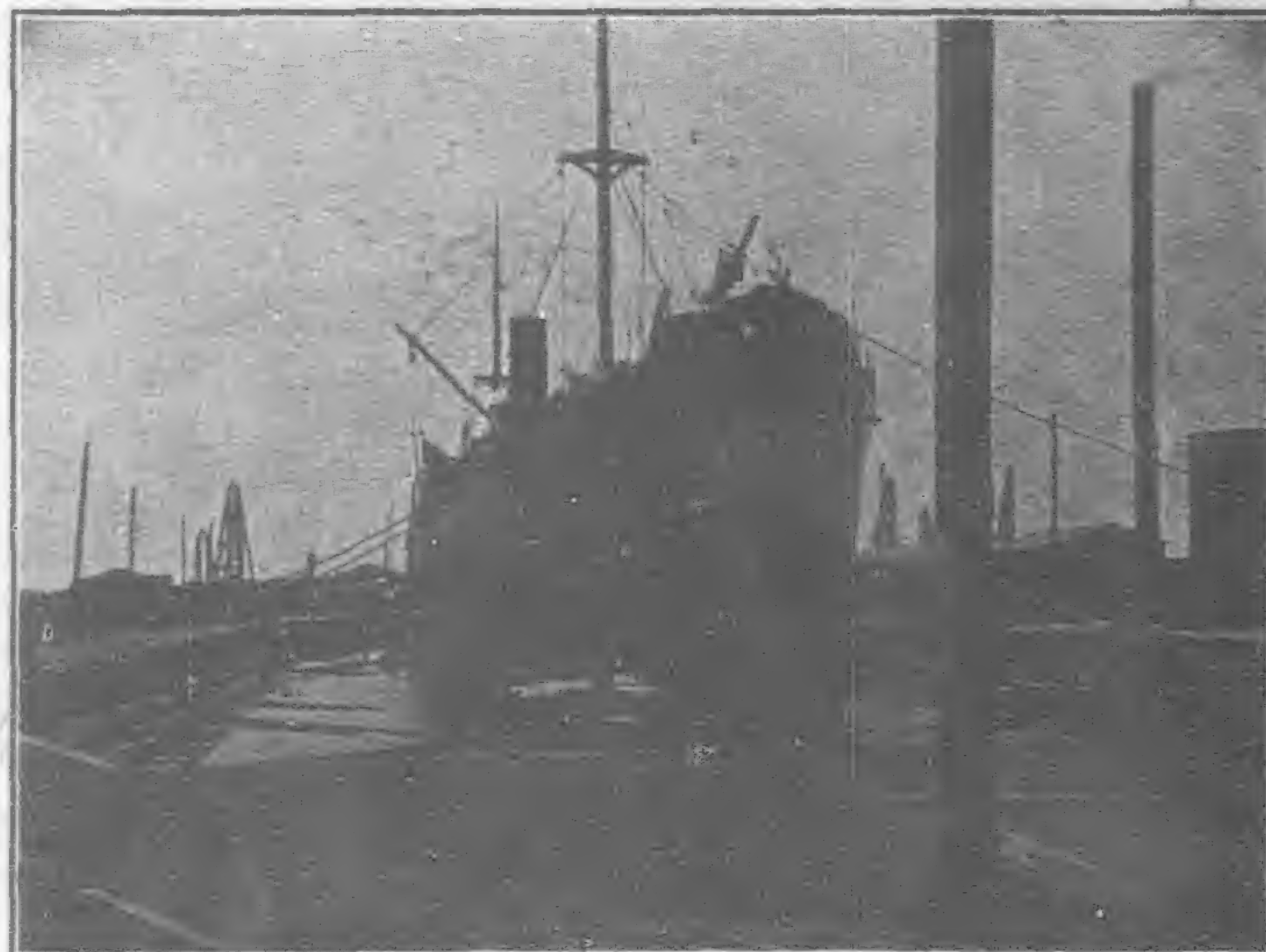
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VIEW OF YANGTSZEPOO DOCK

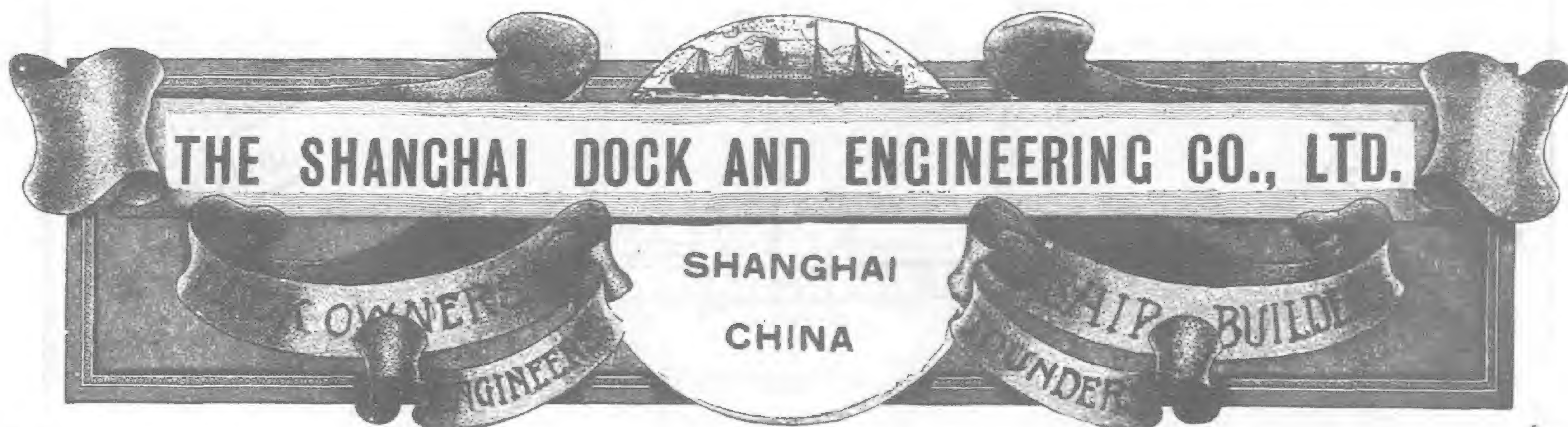
PARTICULARS OF DOCK
LENGTH ON BLOCKS 455'0"
" OVERALL - 469'0"
WIDTH, ENTRANCE 74'0"
" SILL - - 64'0"
DEPTH ON SILL, (H. W.
O. S. TIDES) - - - 21'0"
DEPTH ON 3'0" BLOCKS
(H. W. O. S. TIDES) 19'0"
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WITHOUT VESSEL IN, IN
3½ HOURS.
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LOCATED AT HEAD
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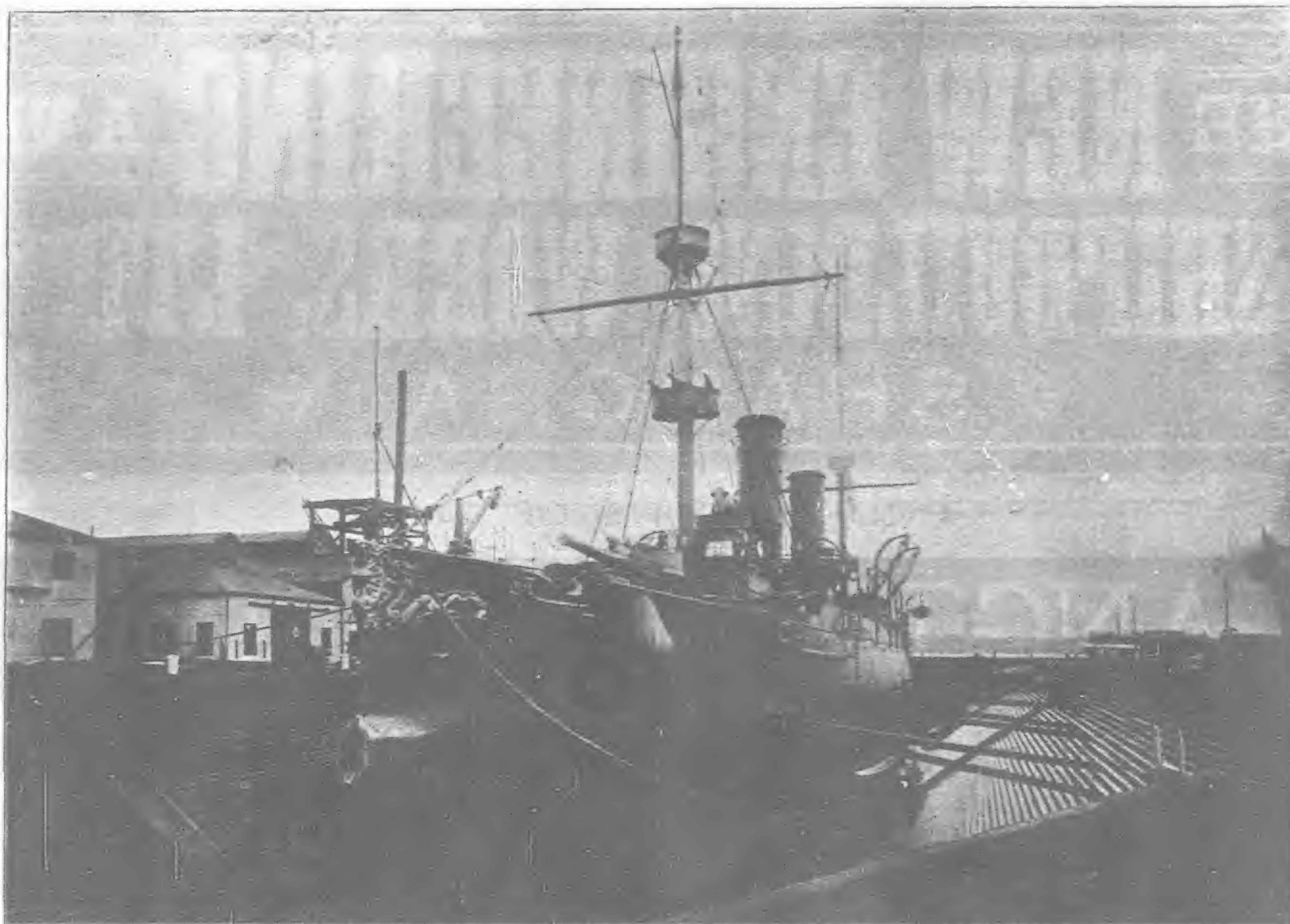
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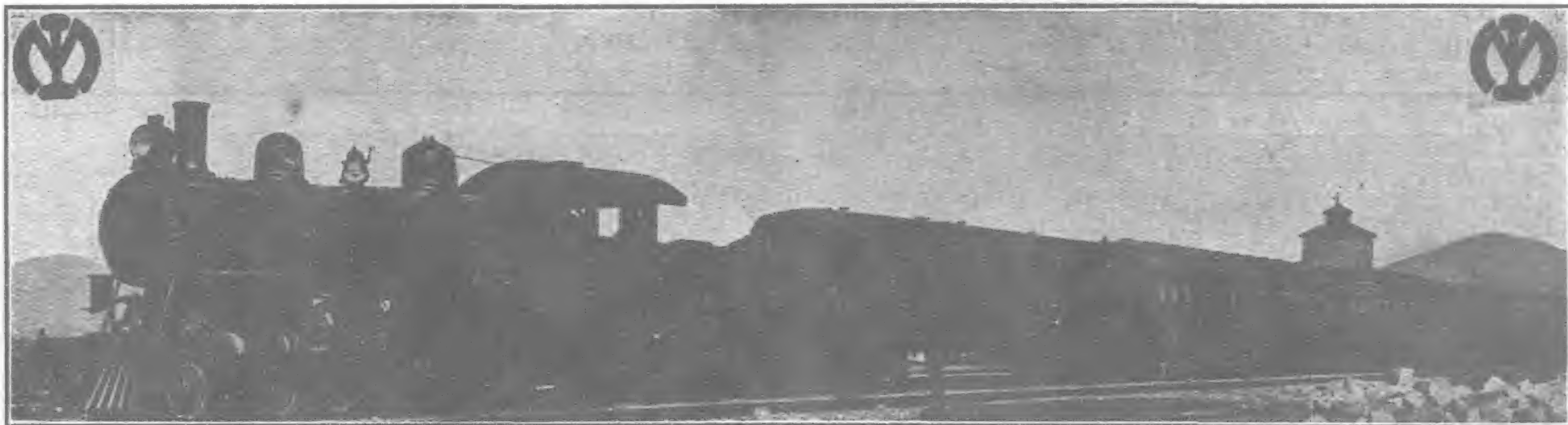
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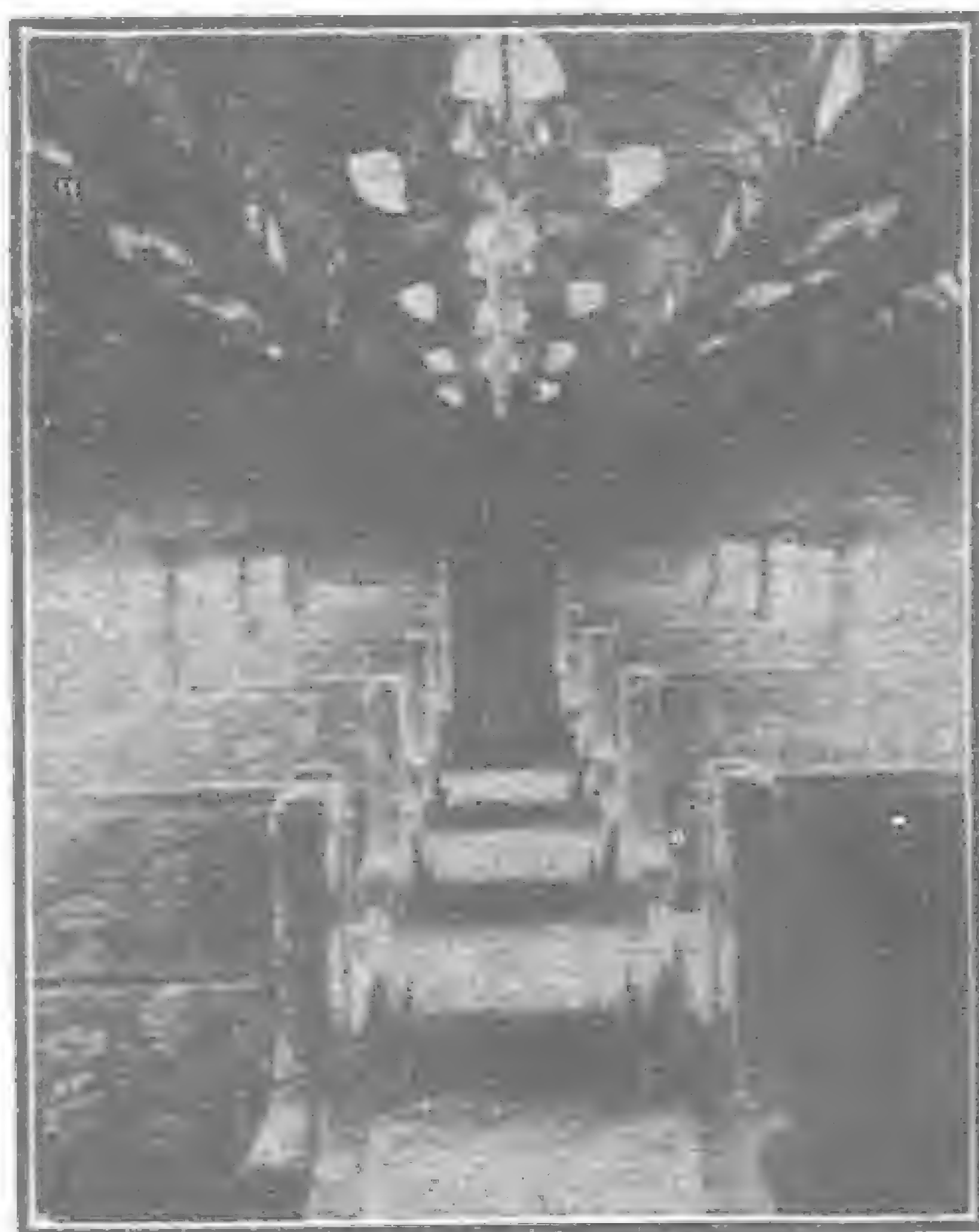
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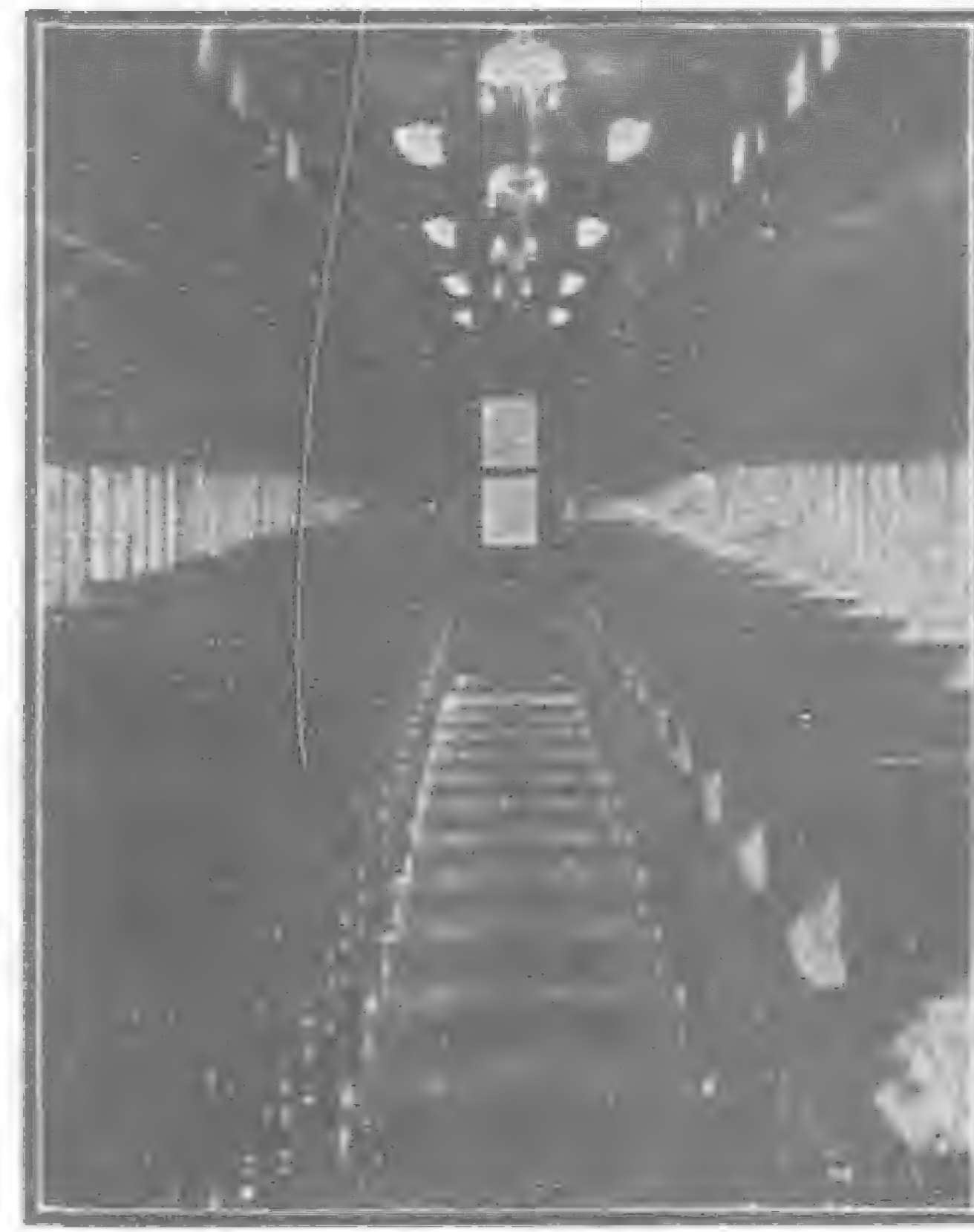


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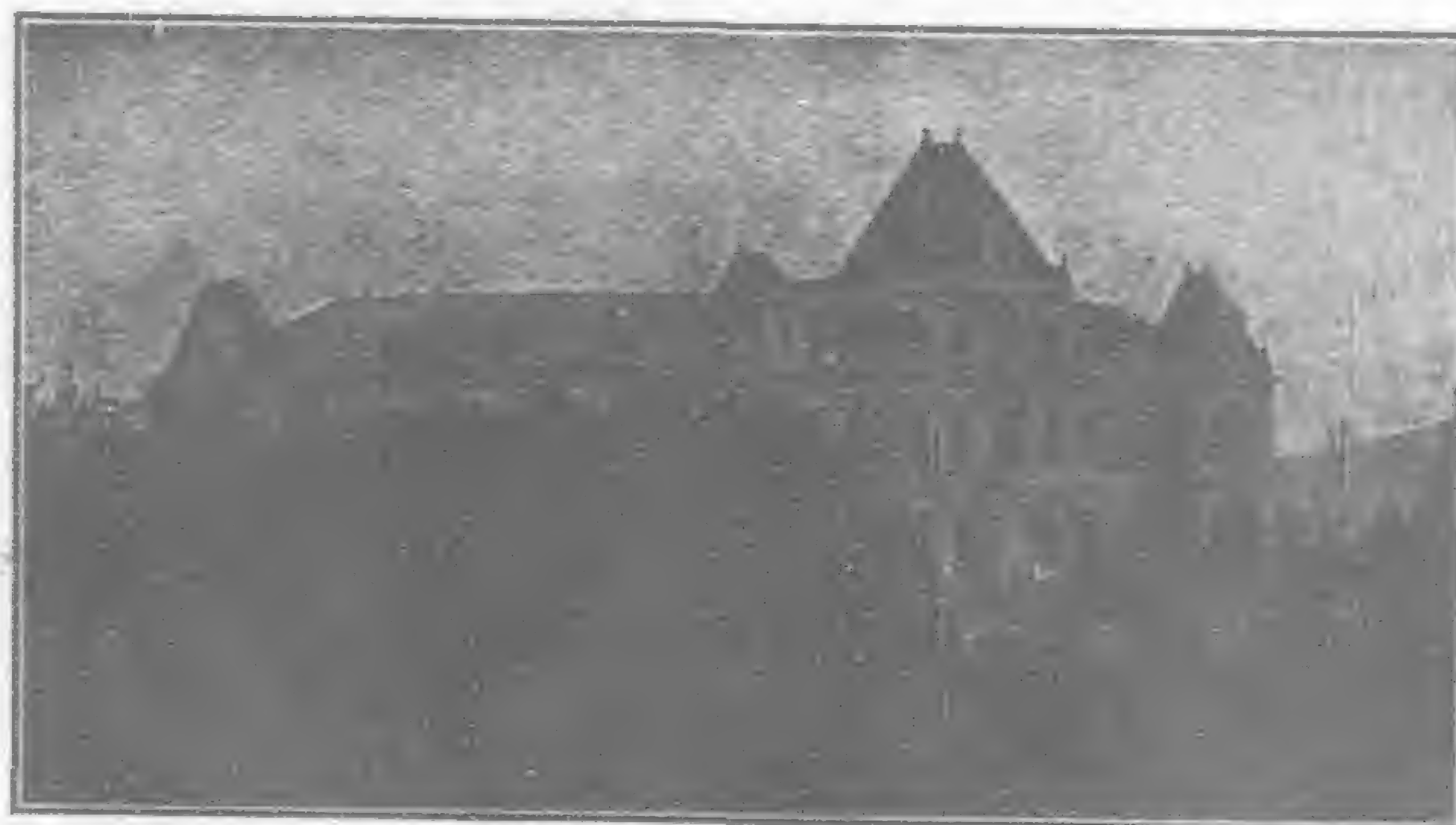
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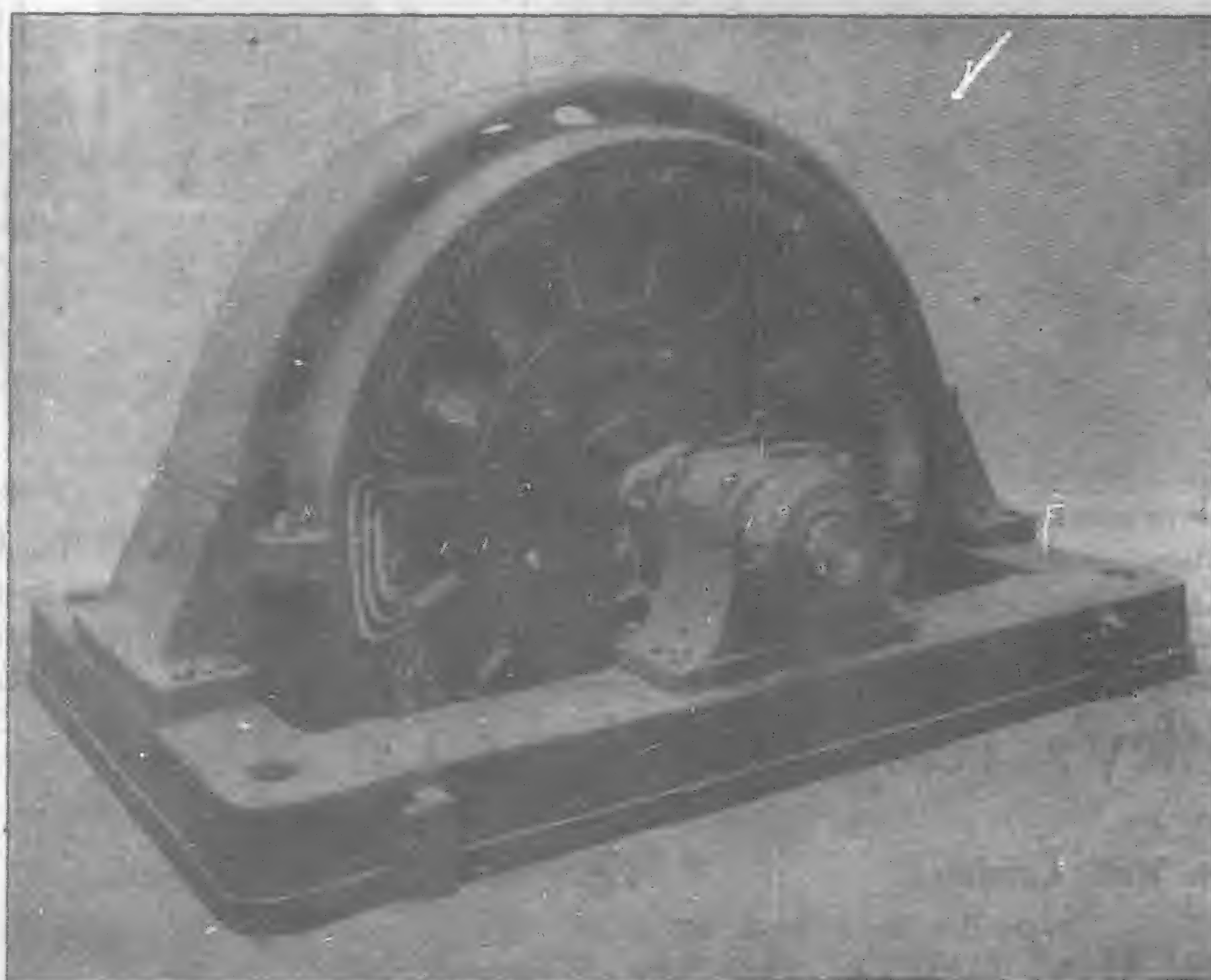
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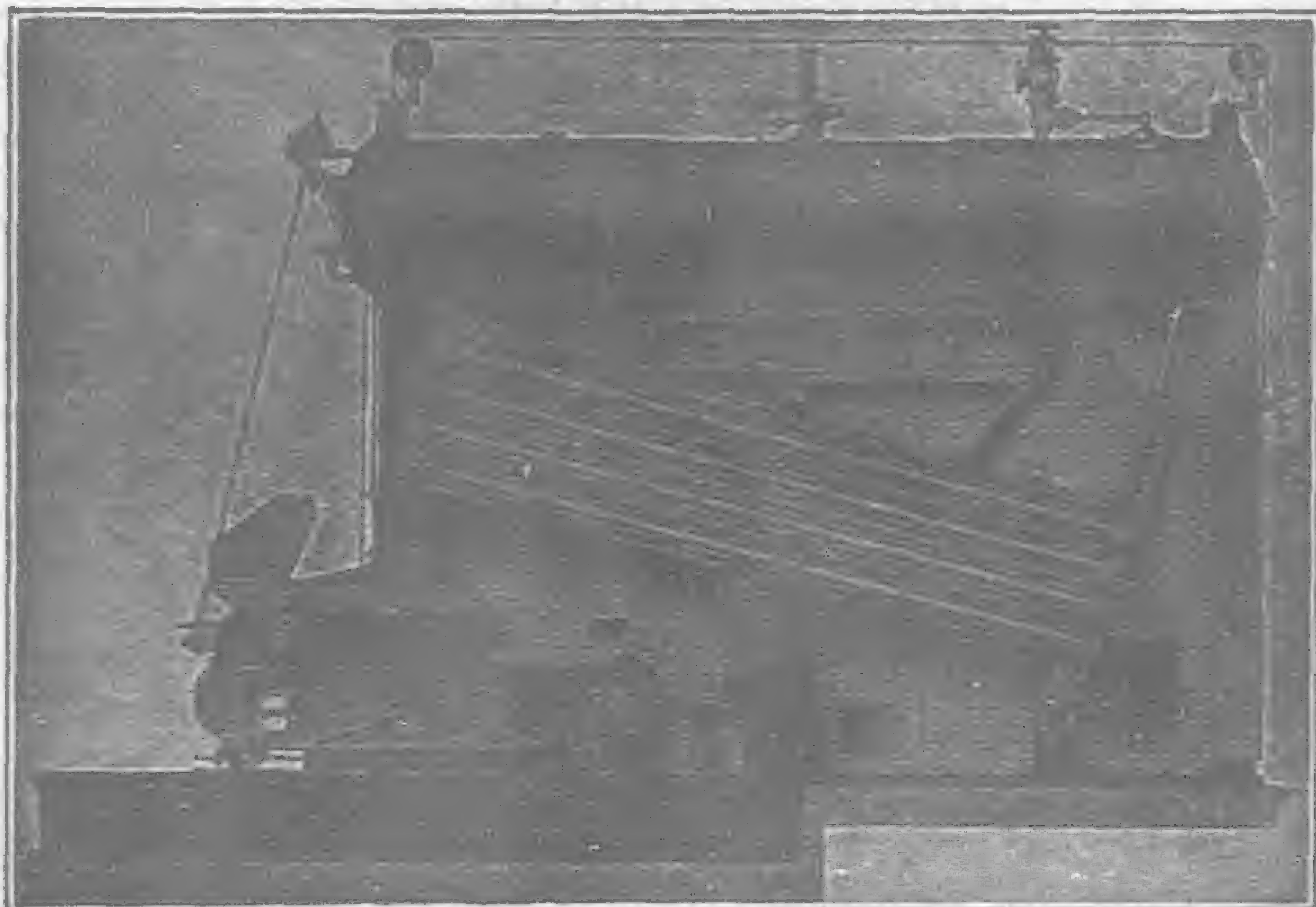


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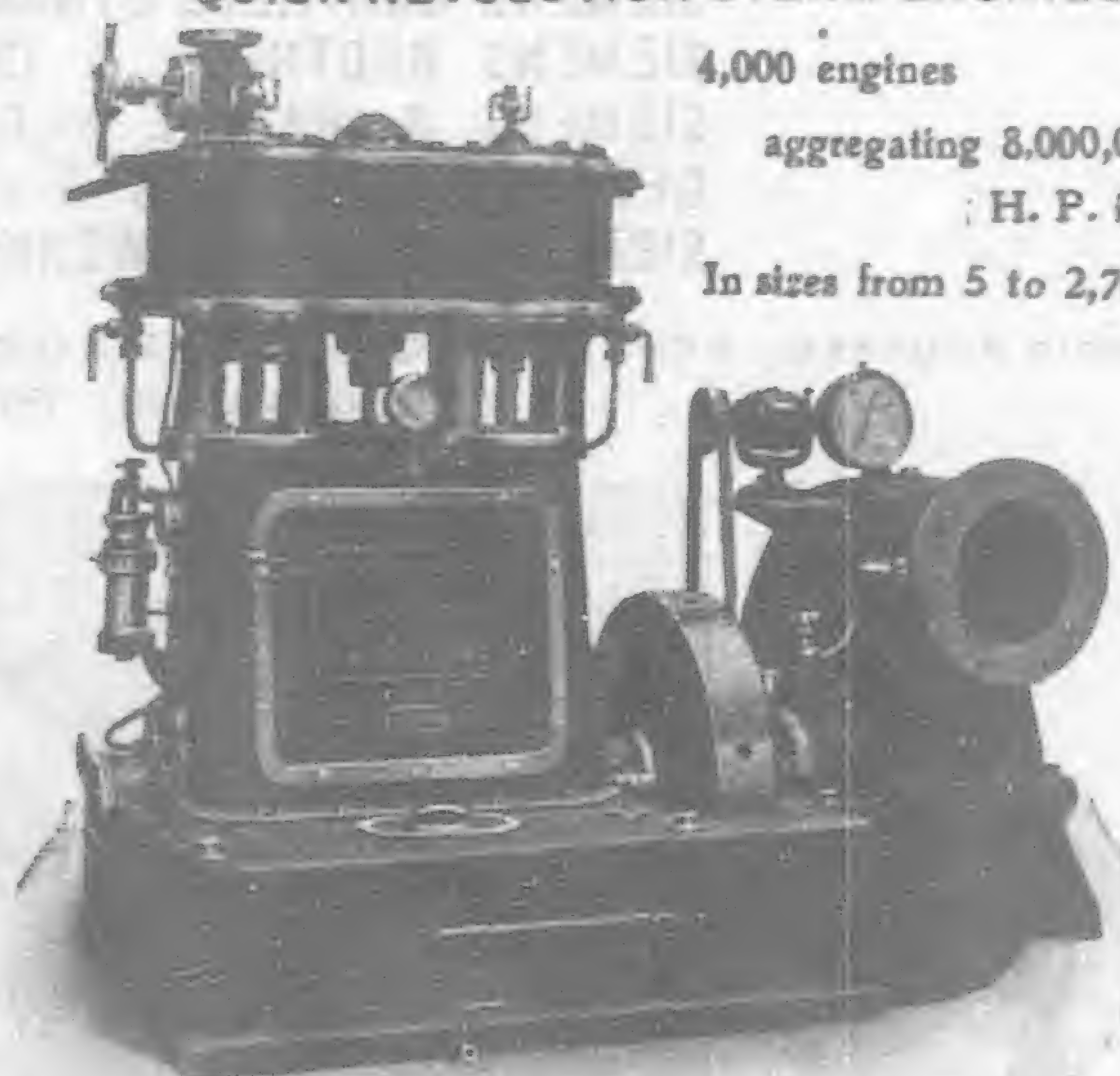
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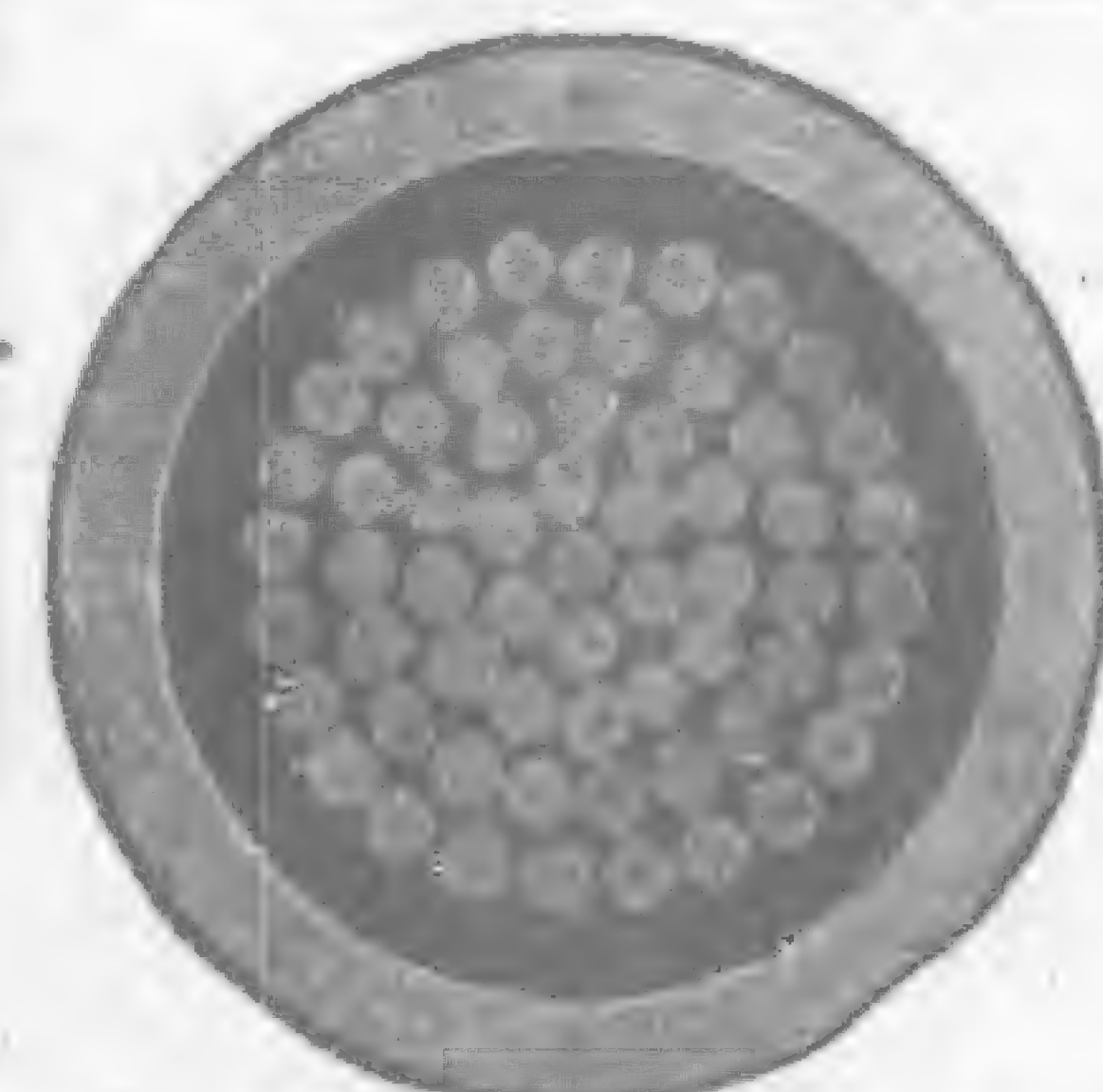
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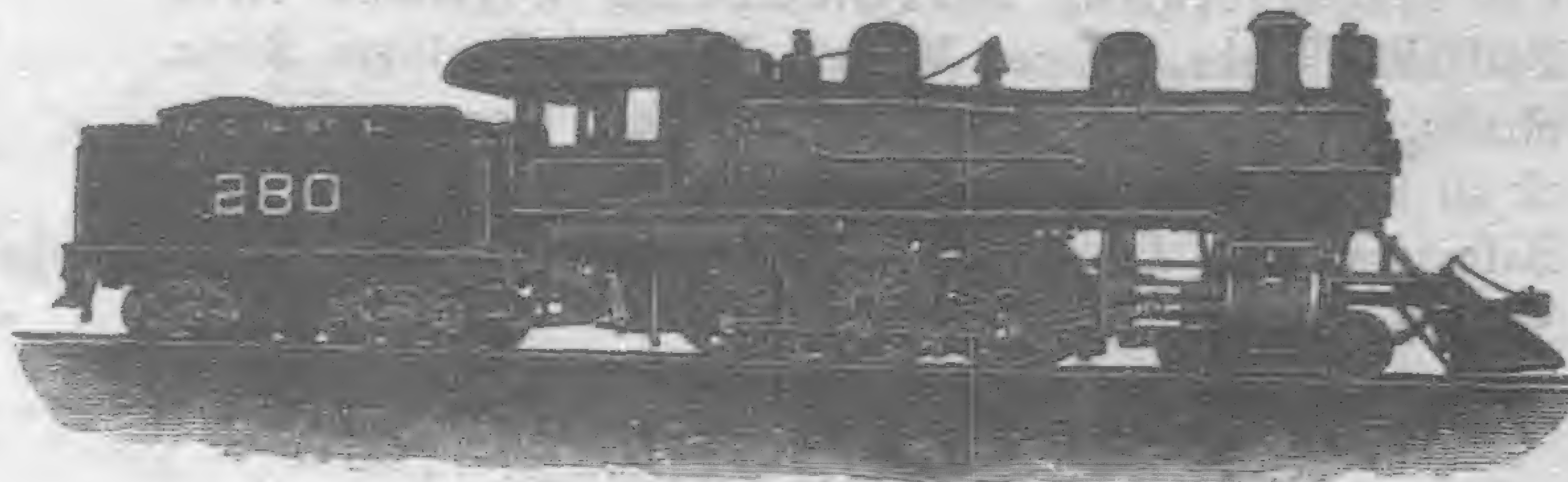
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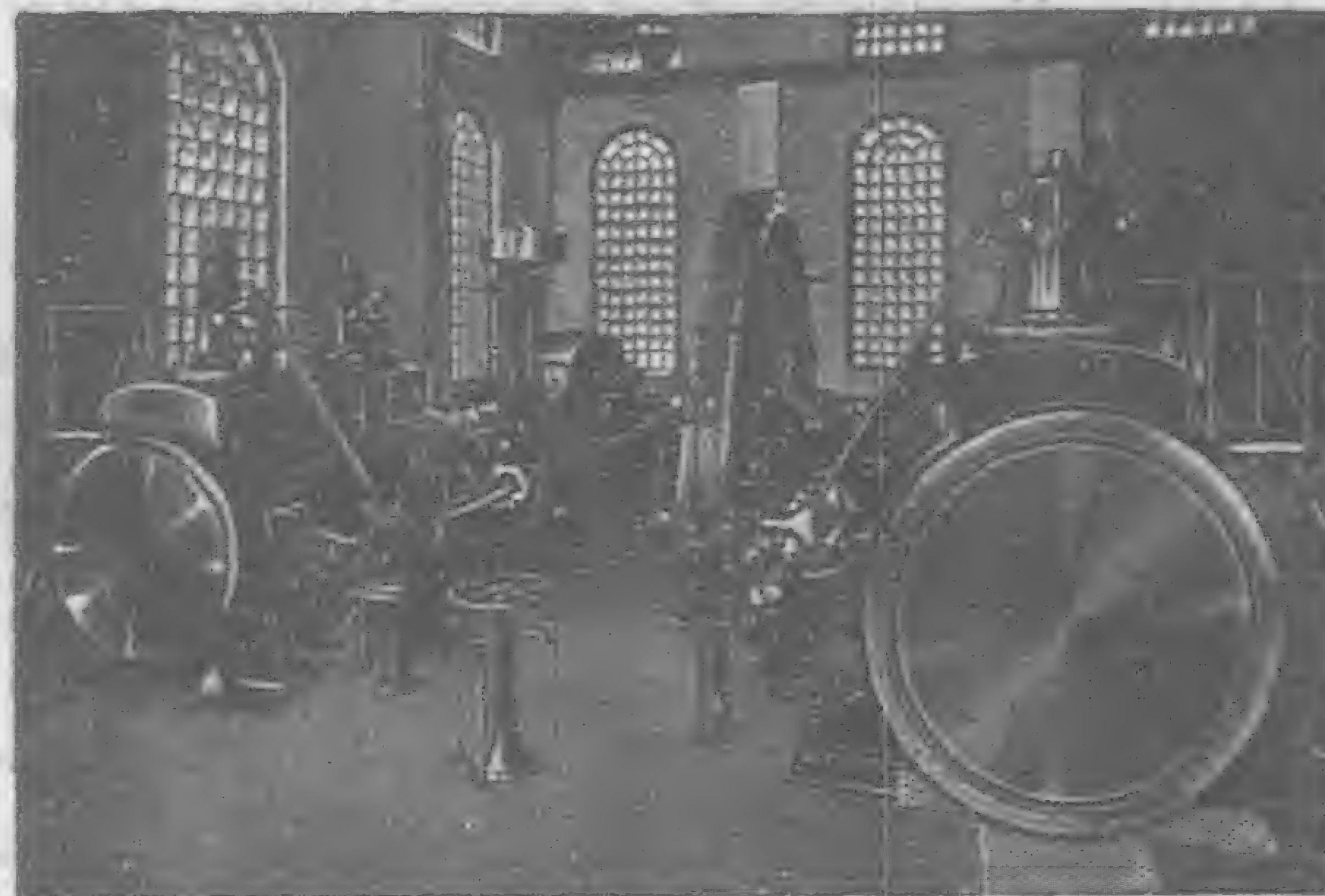
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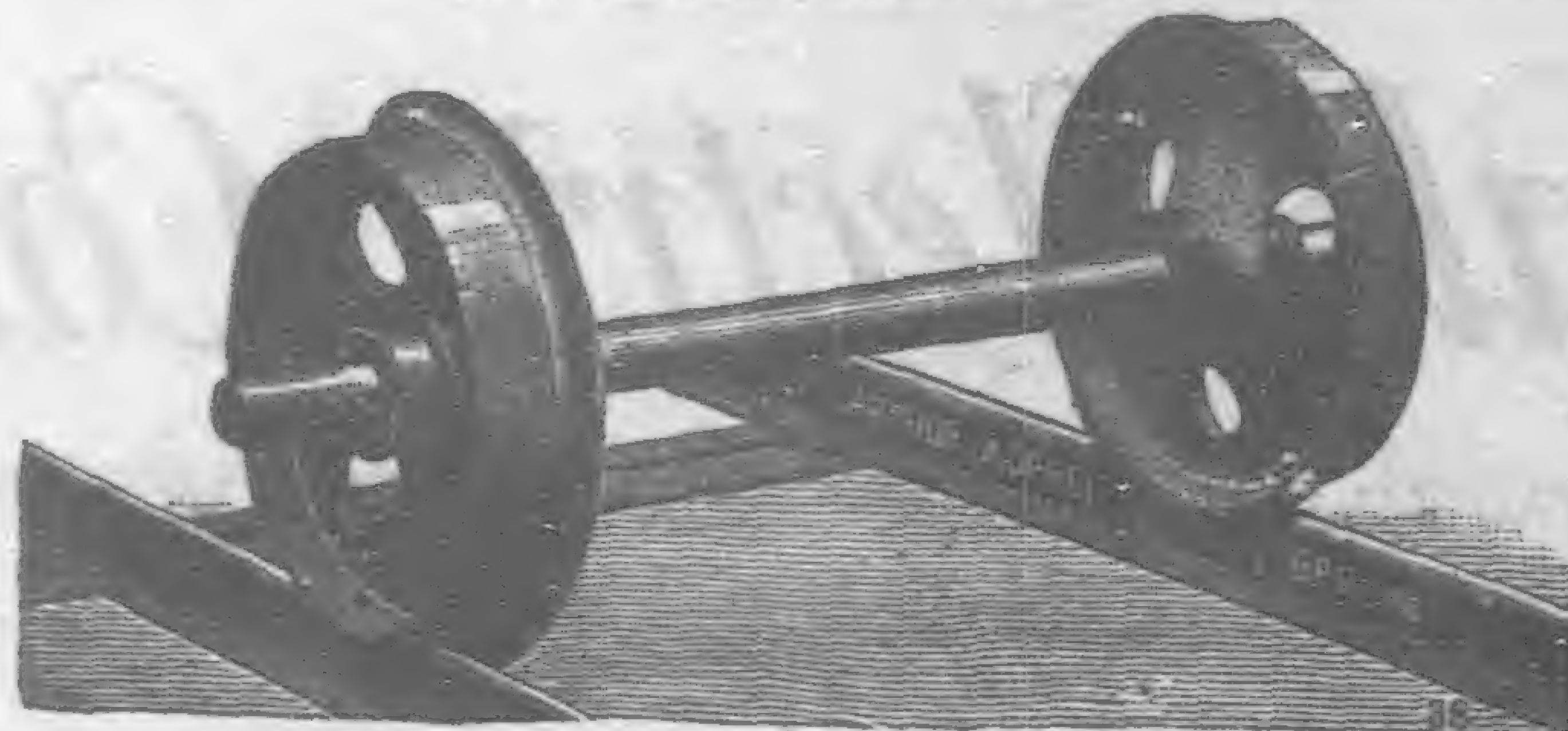
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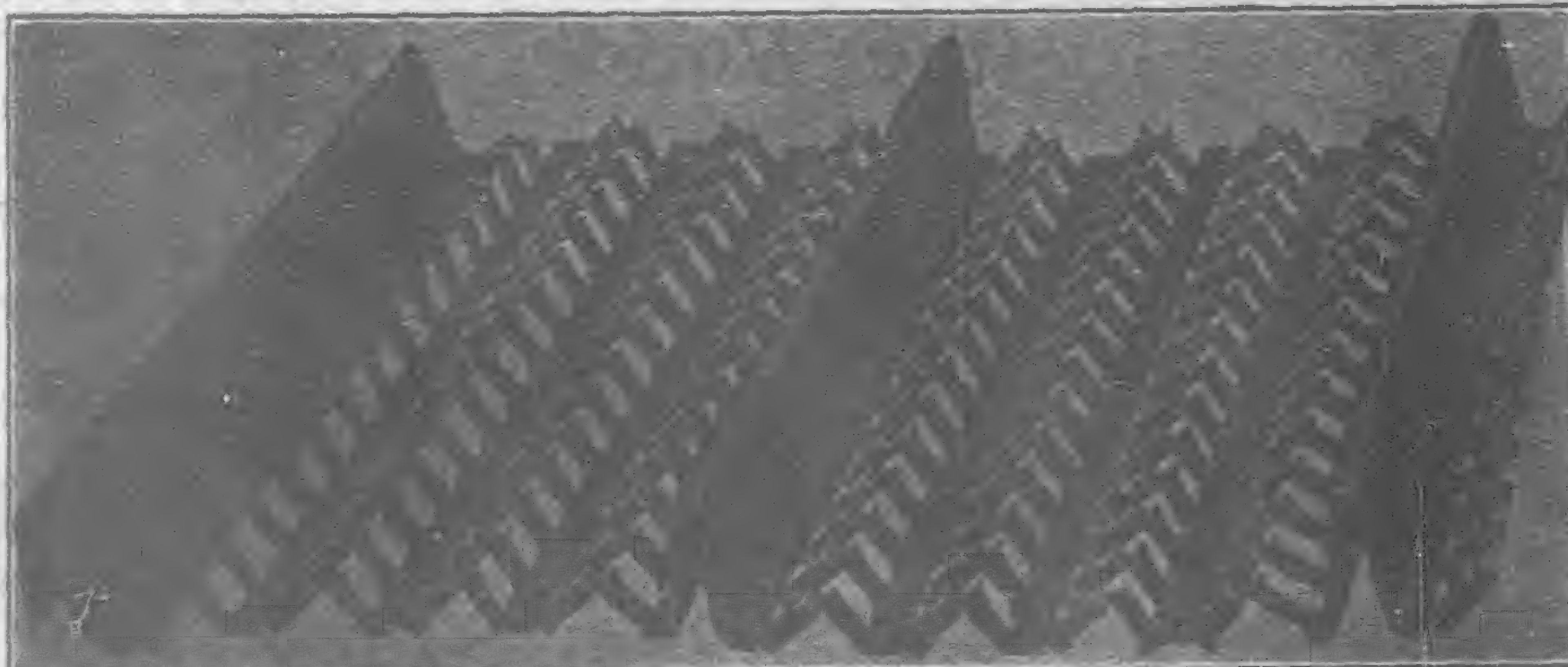
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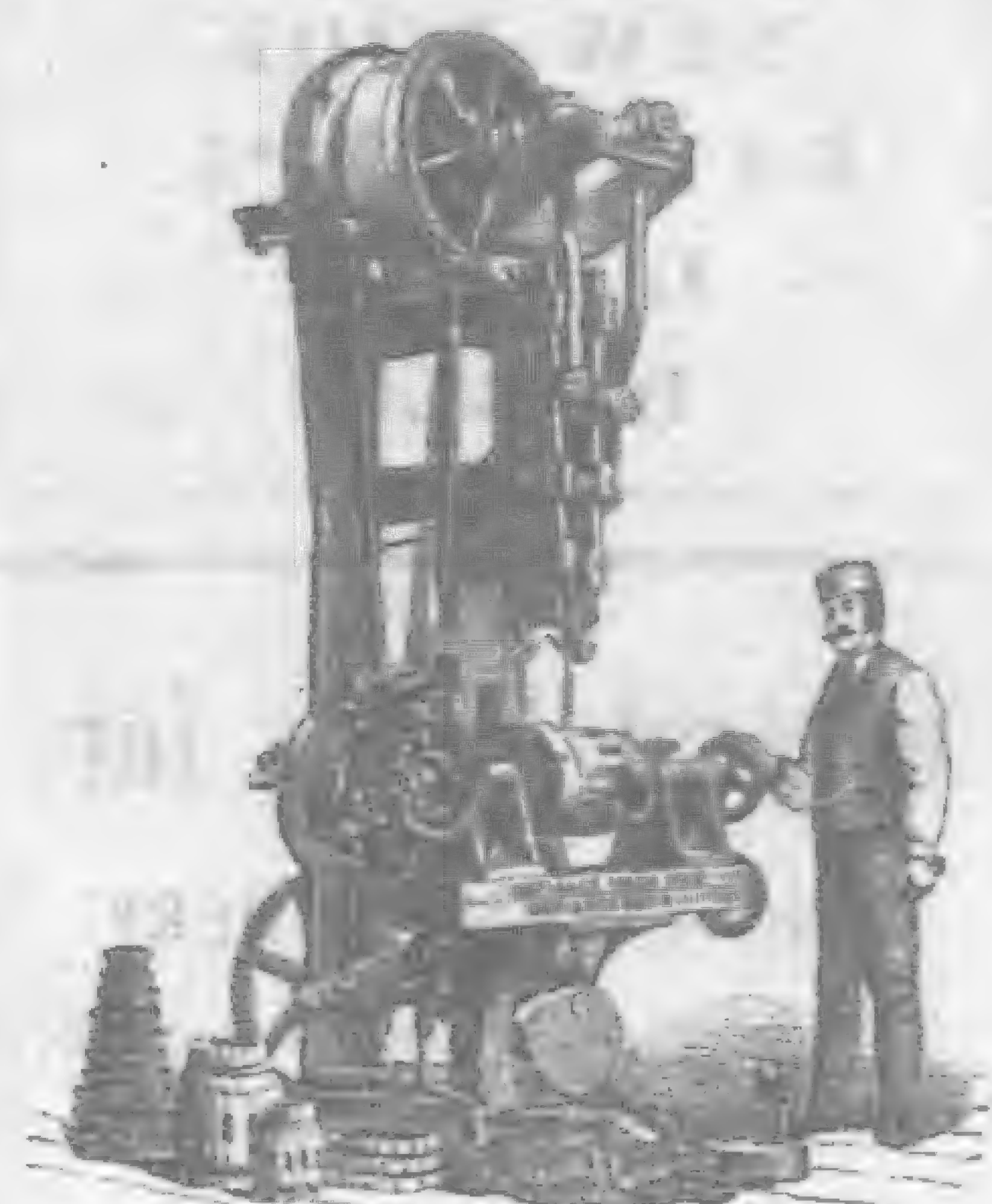
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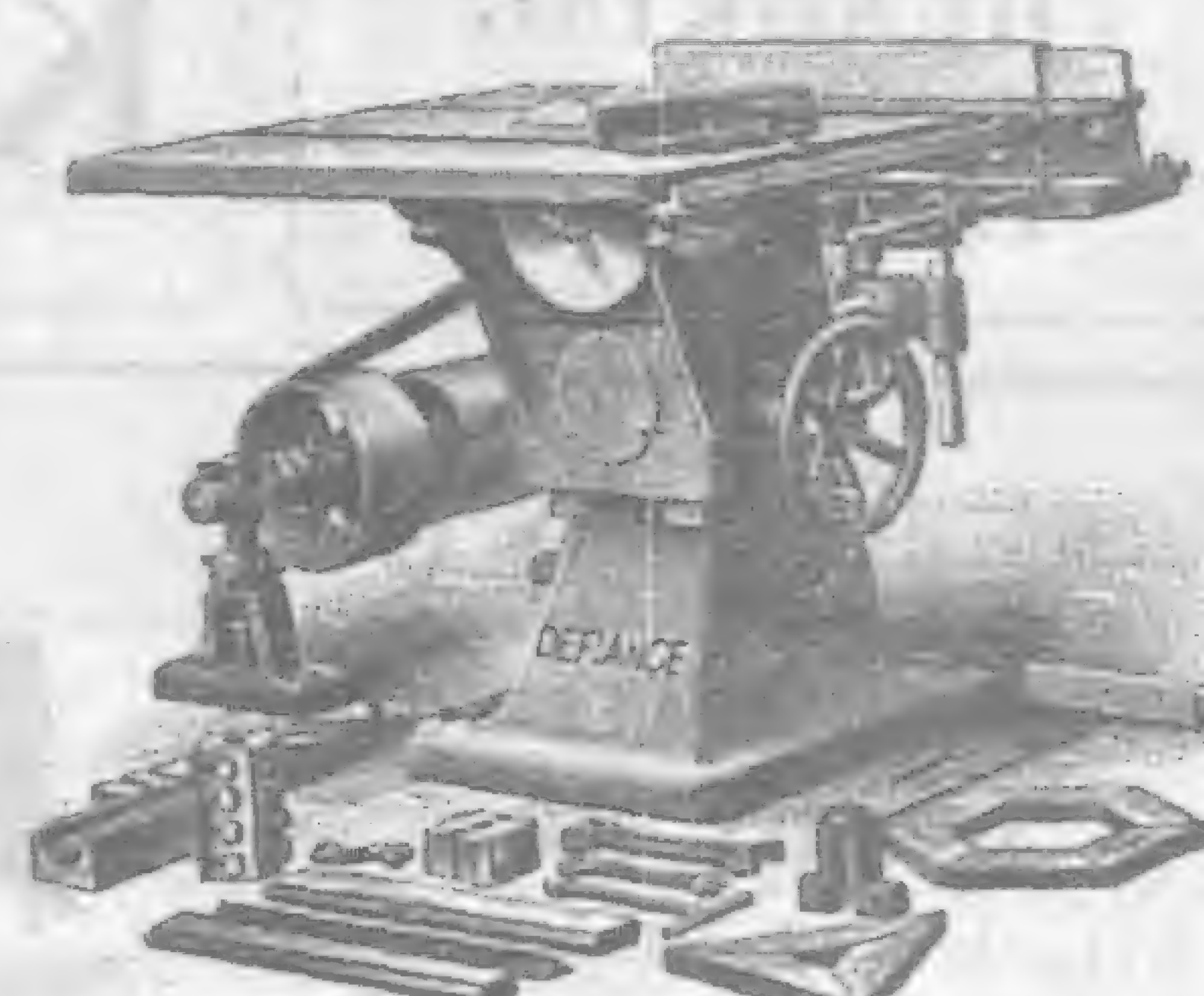
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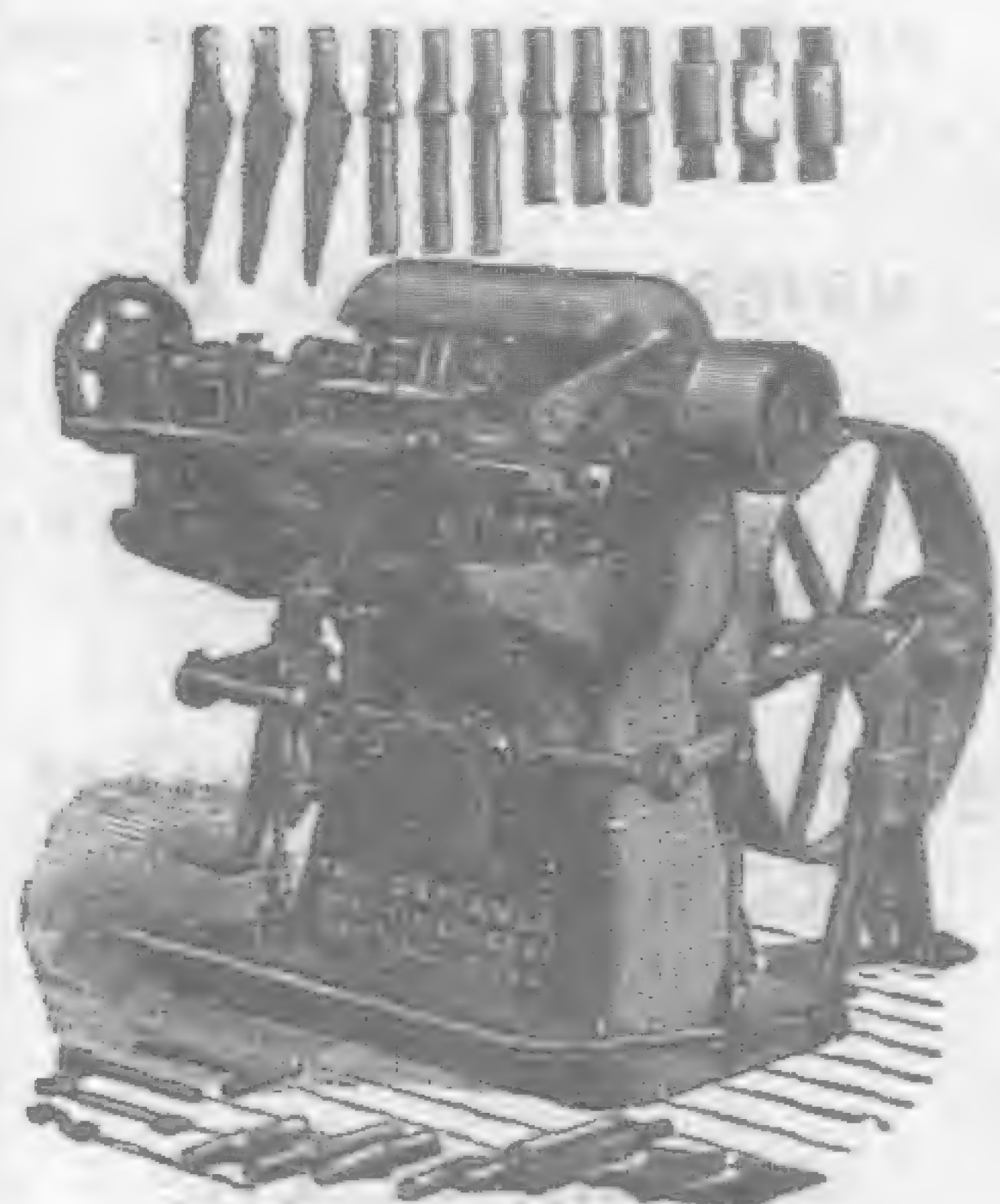
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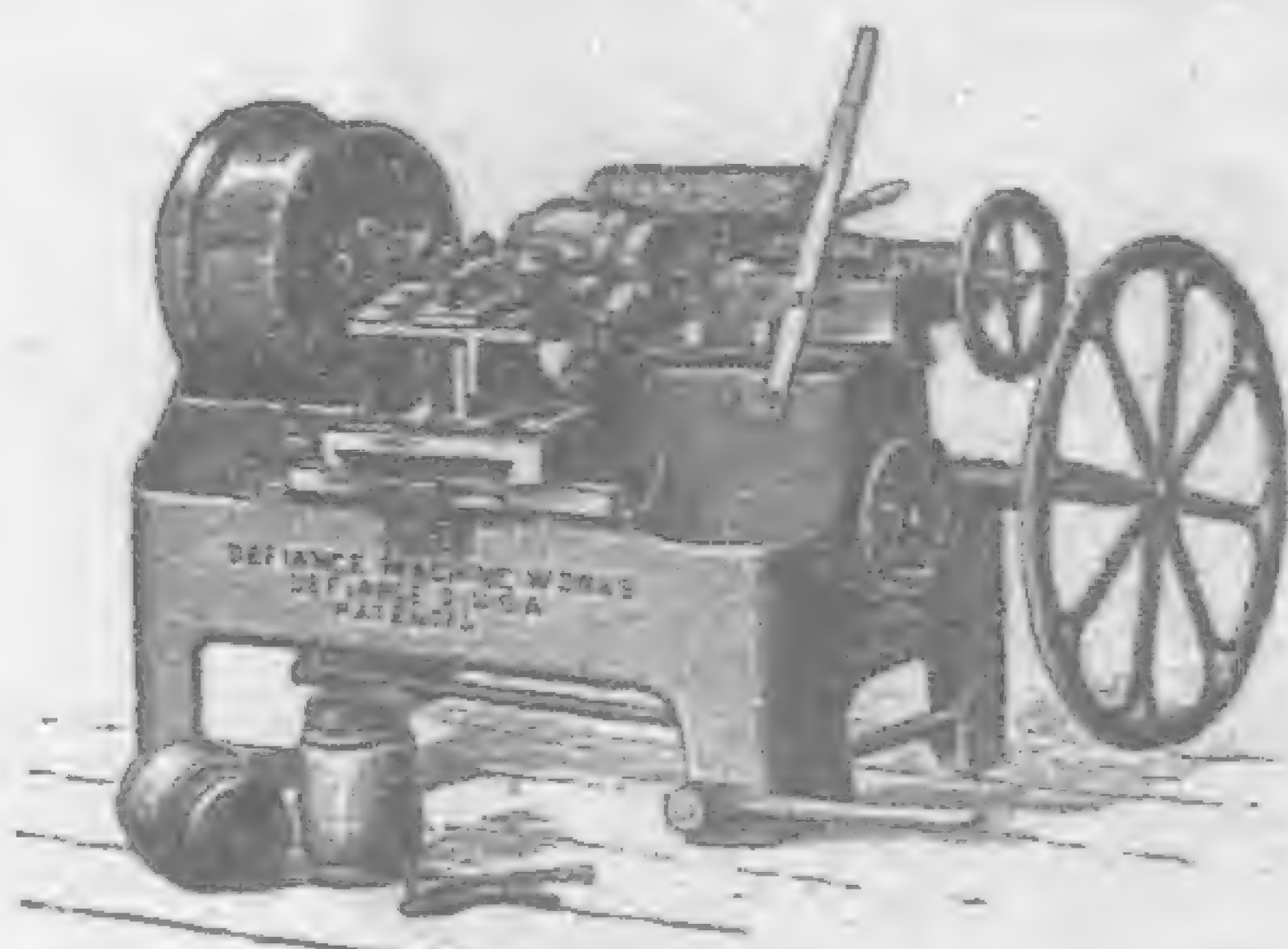
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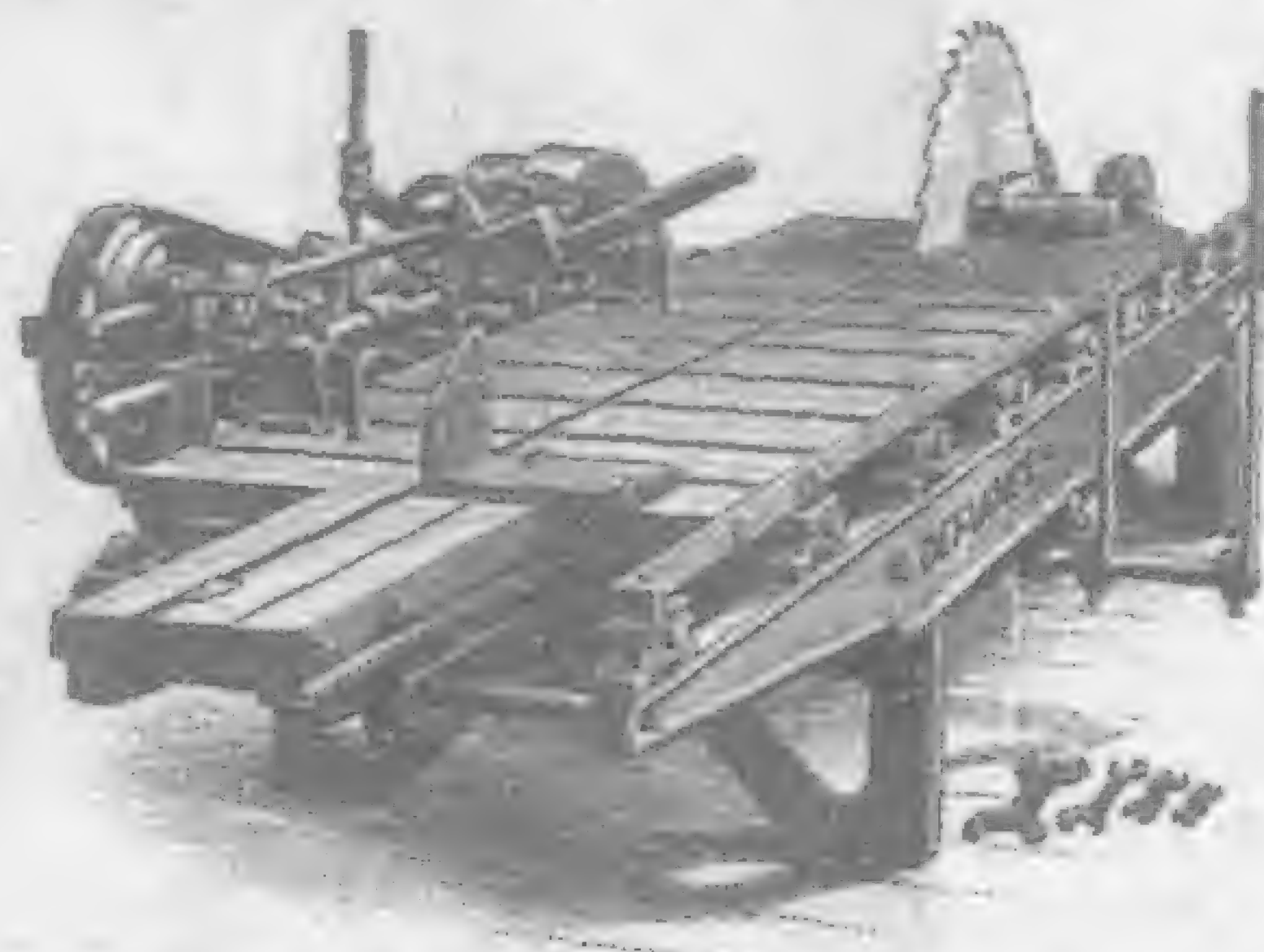
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
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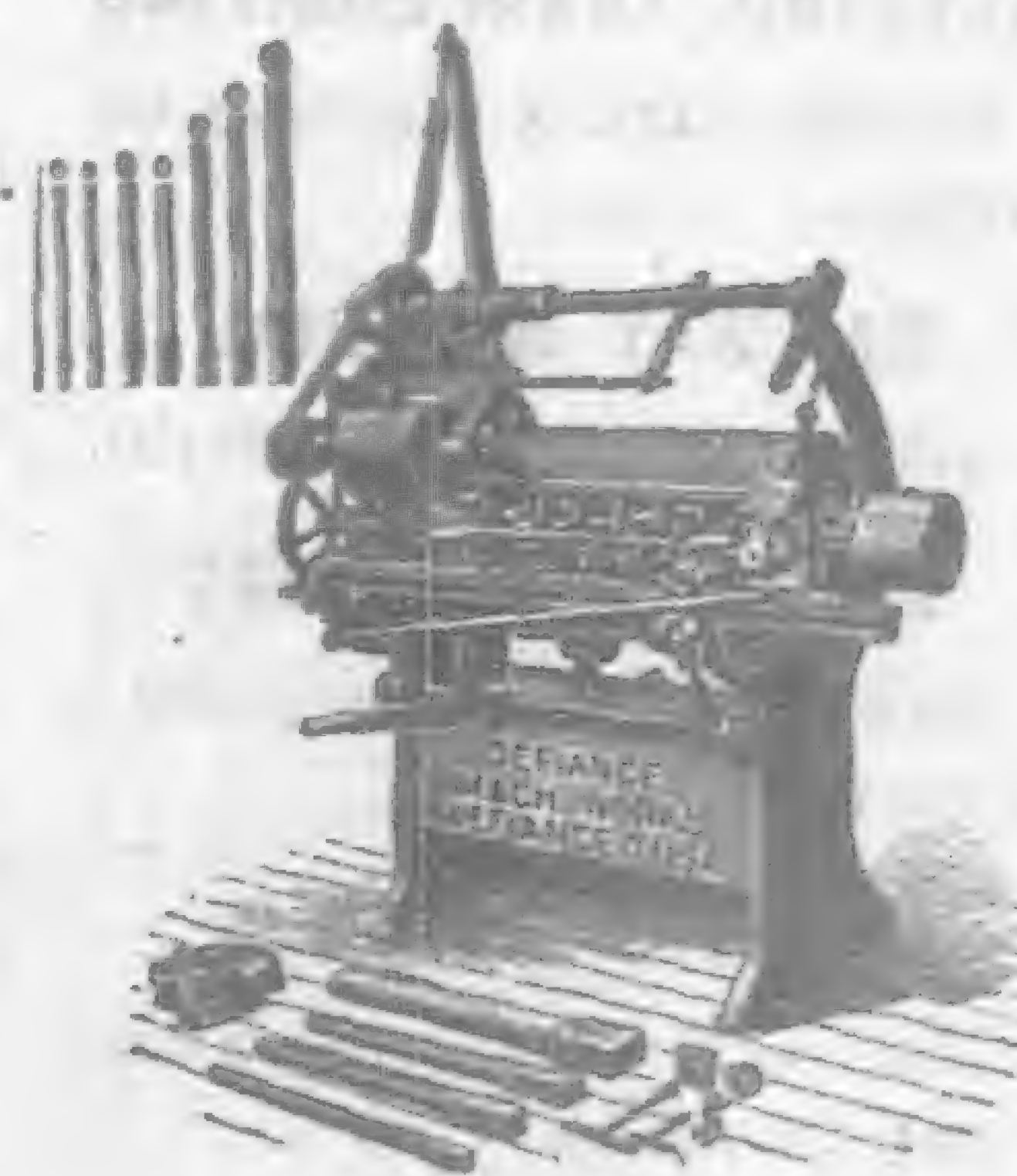
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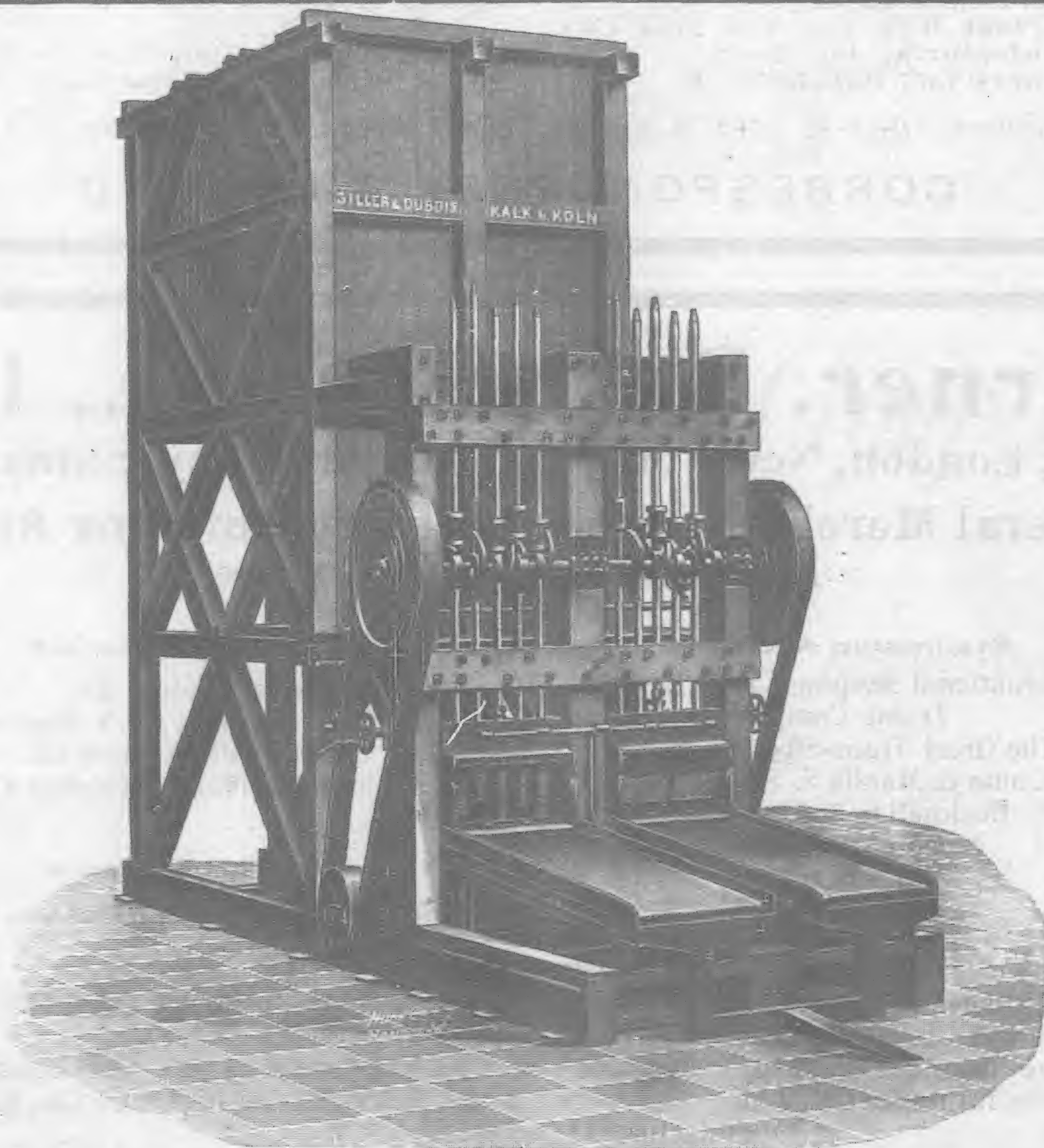
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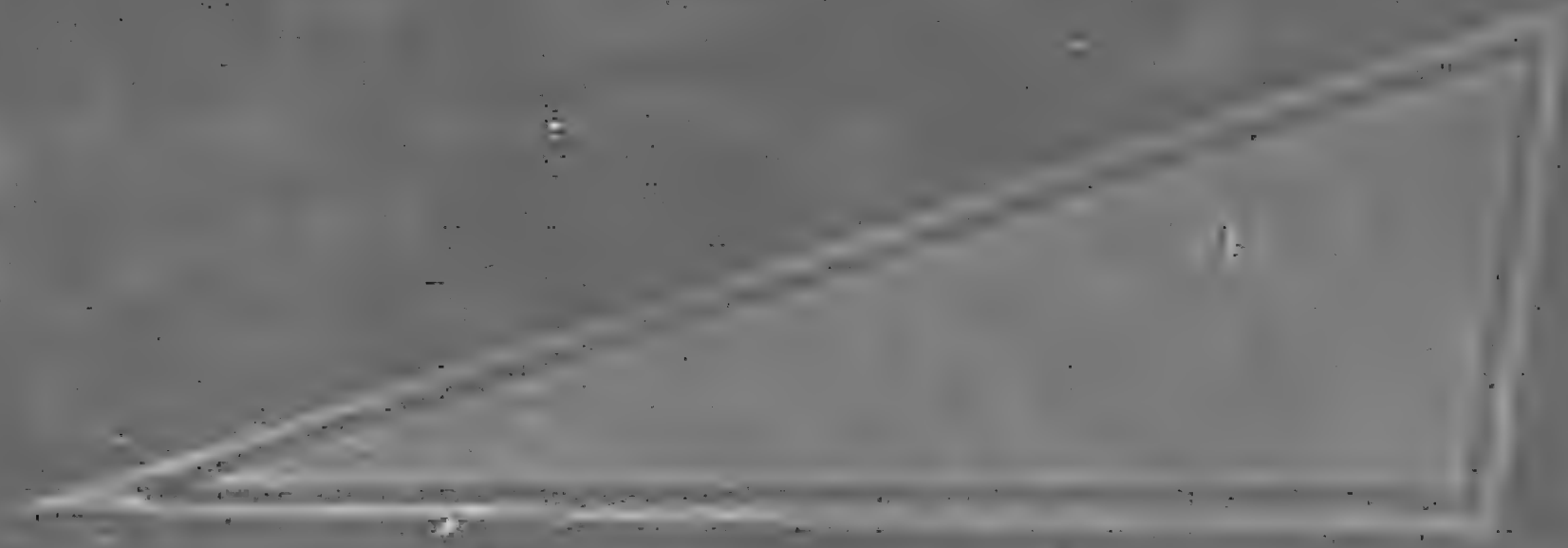
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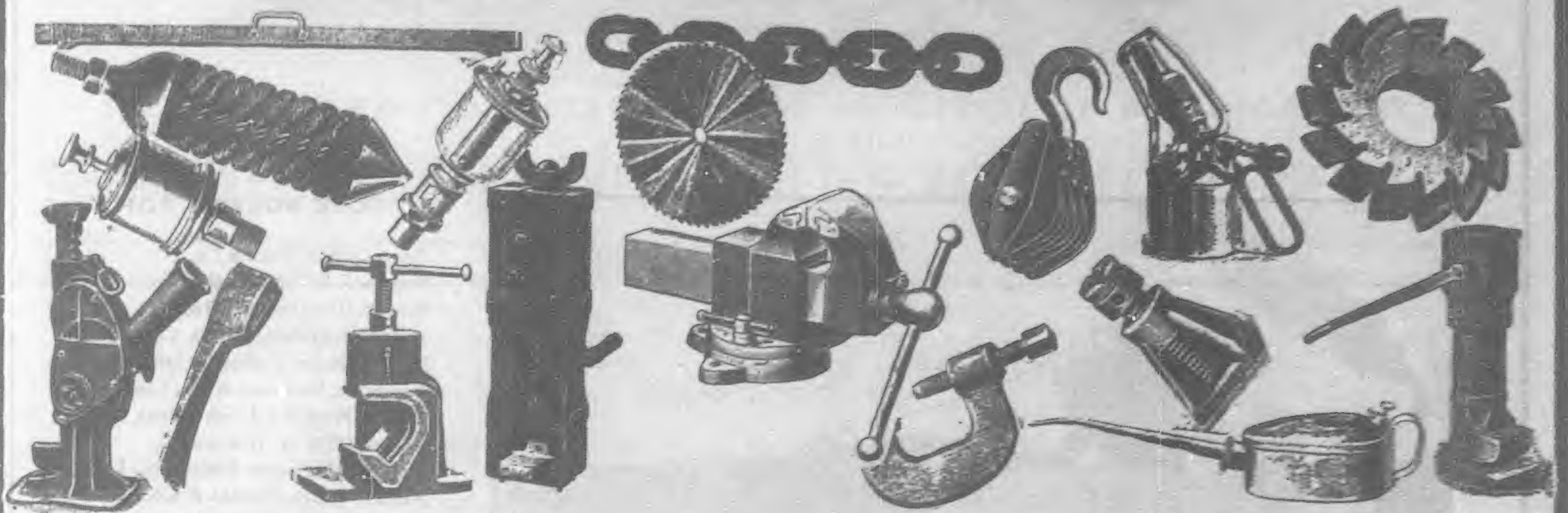
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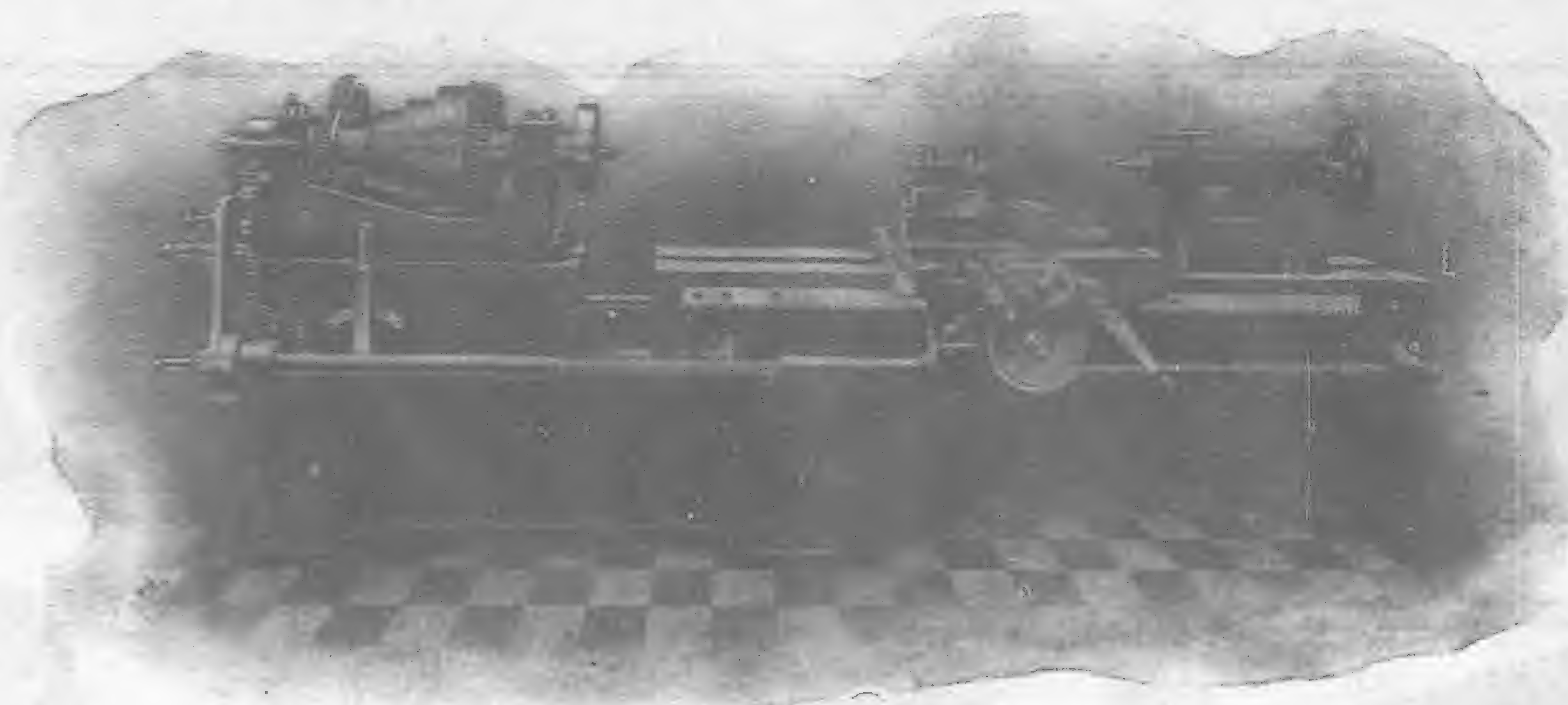
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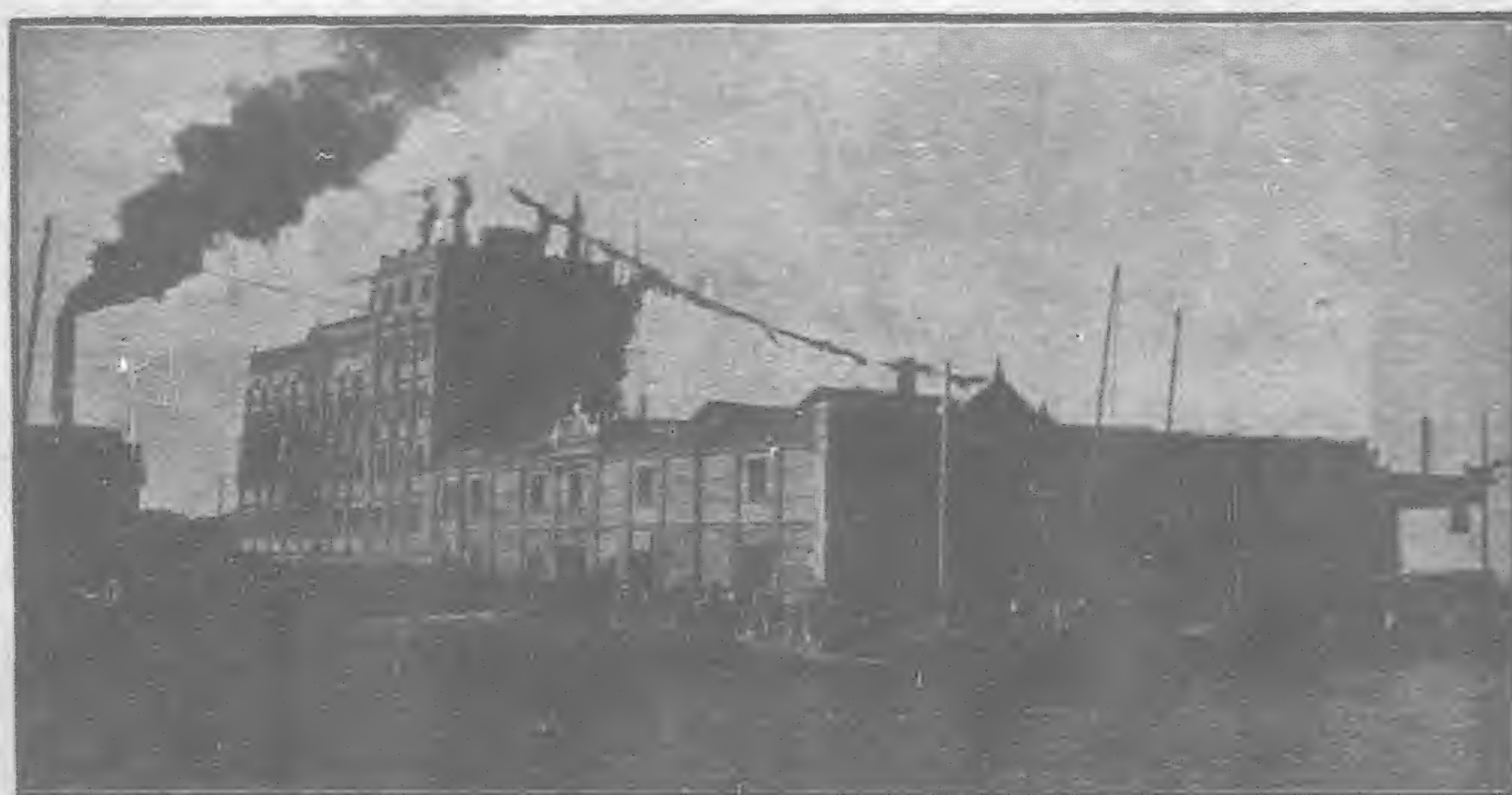
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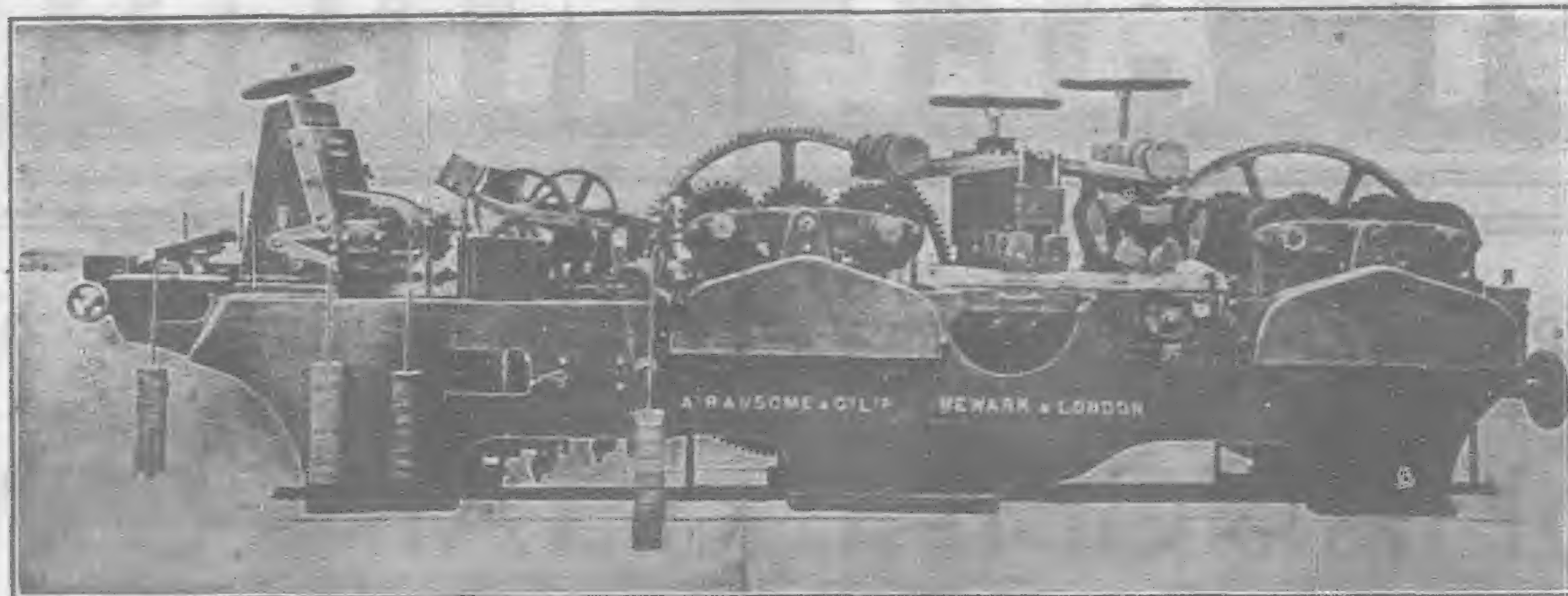
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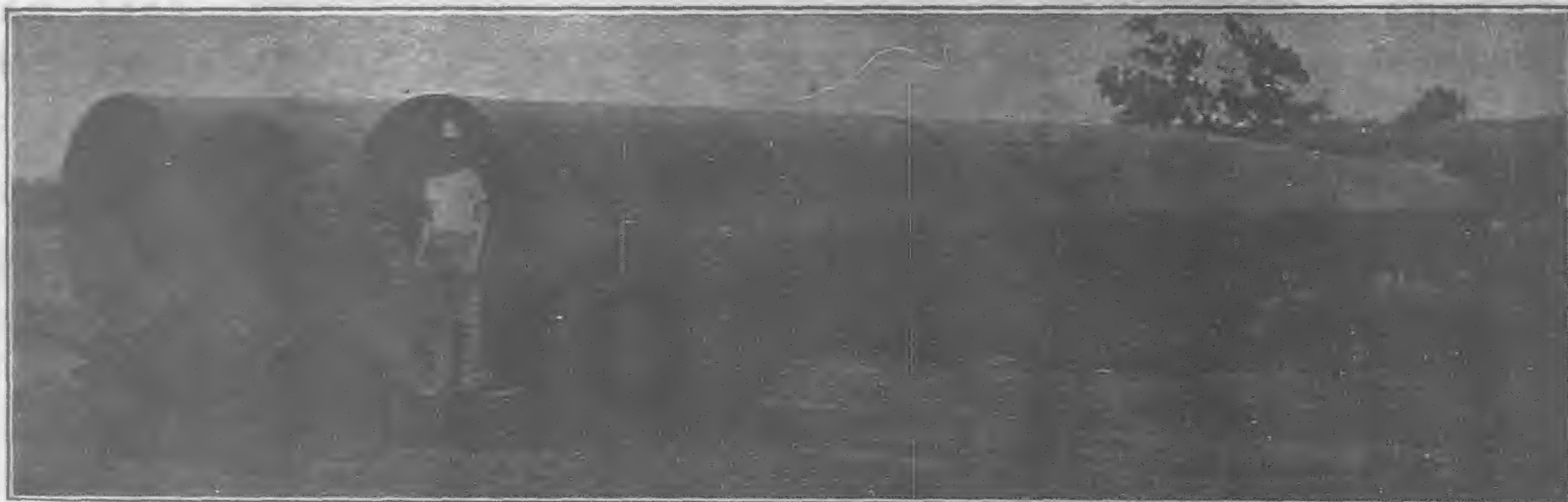
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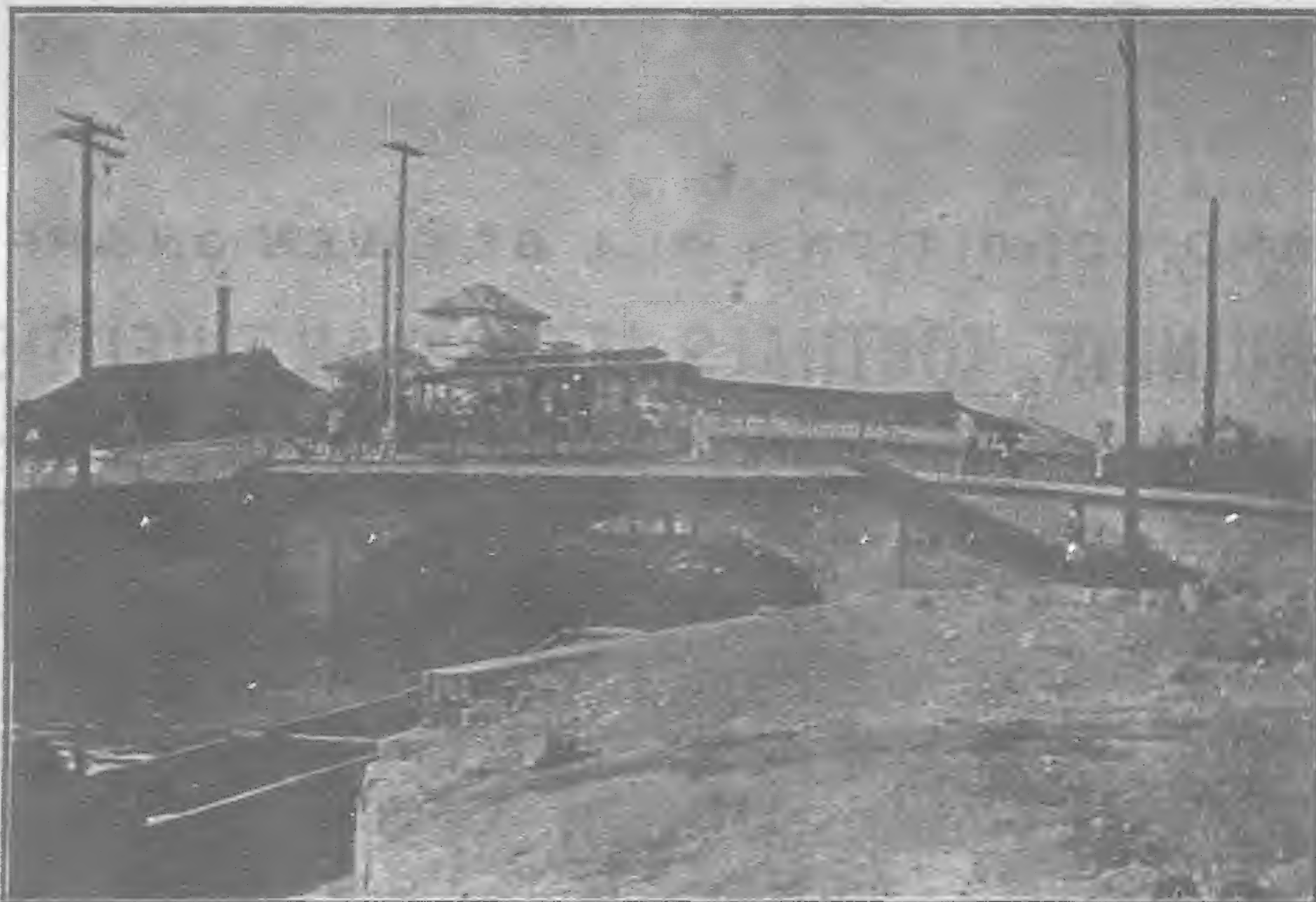
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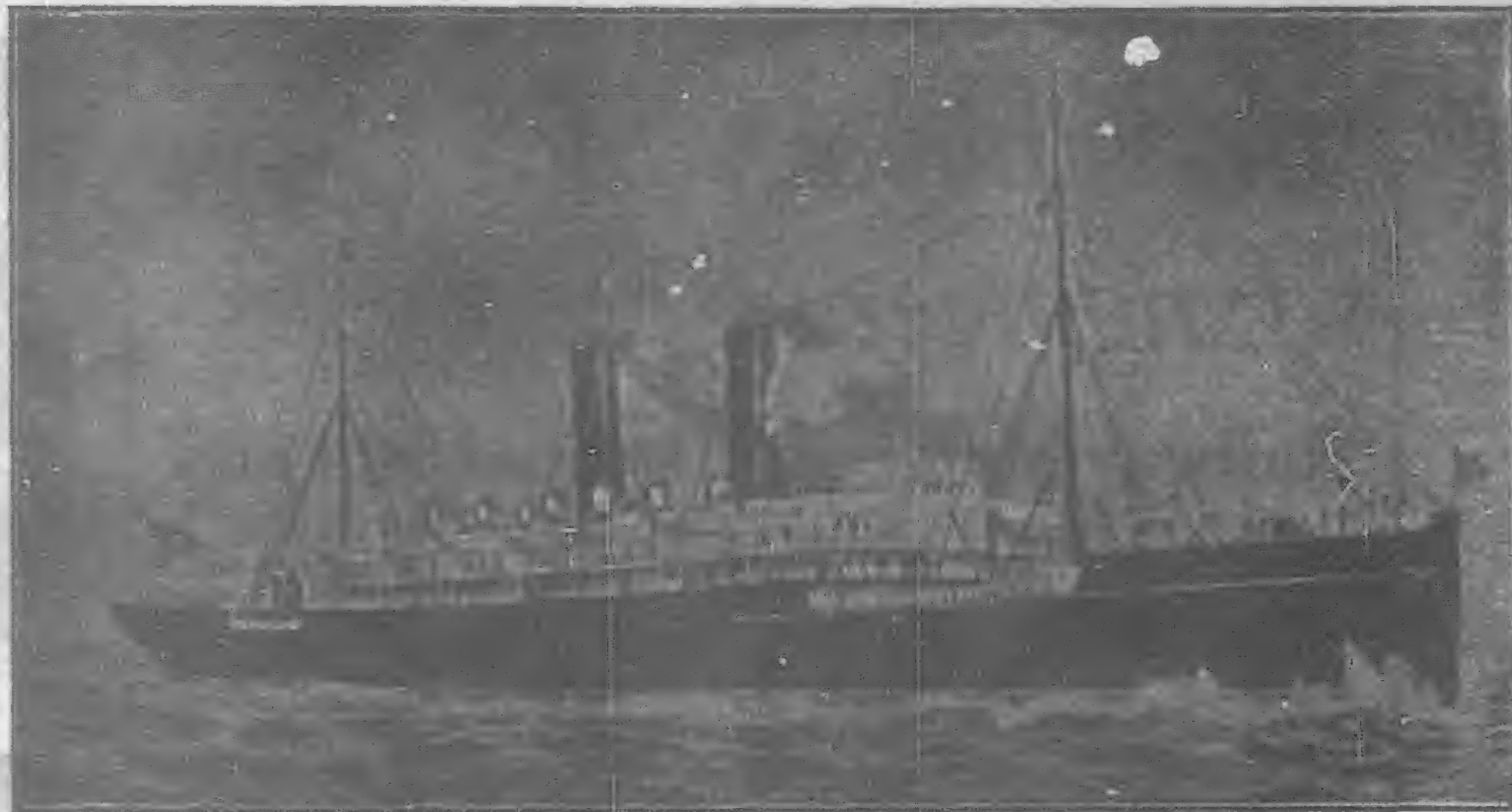
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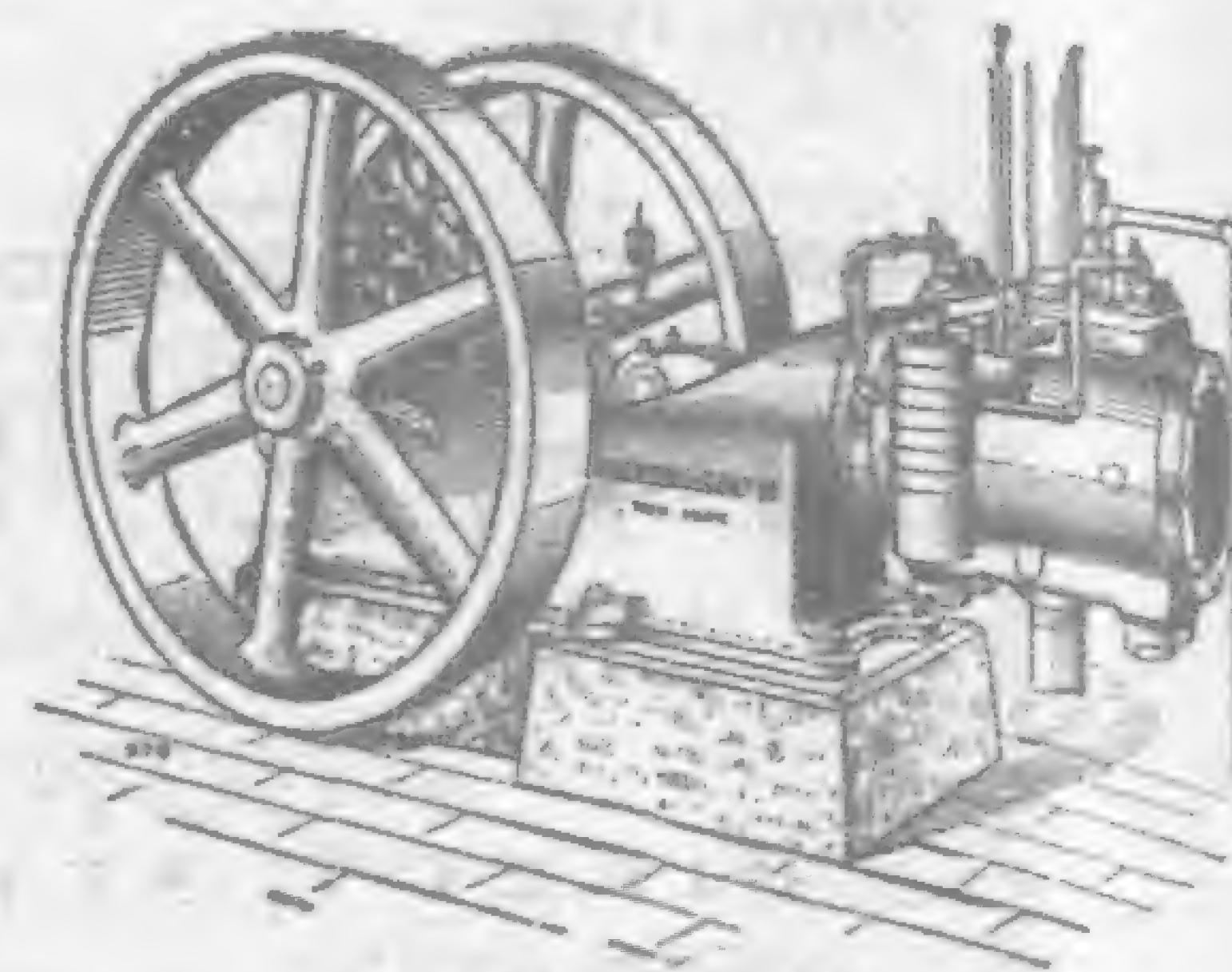
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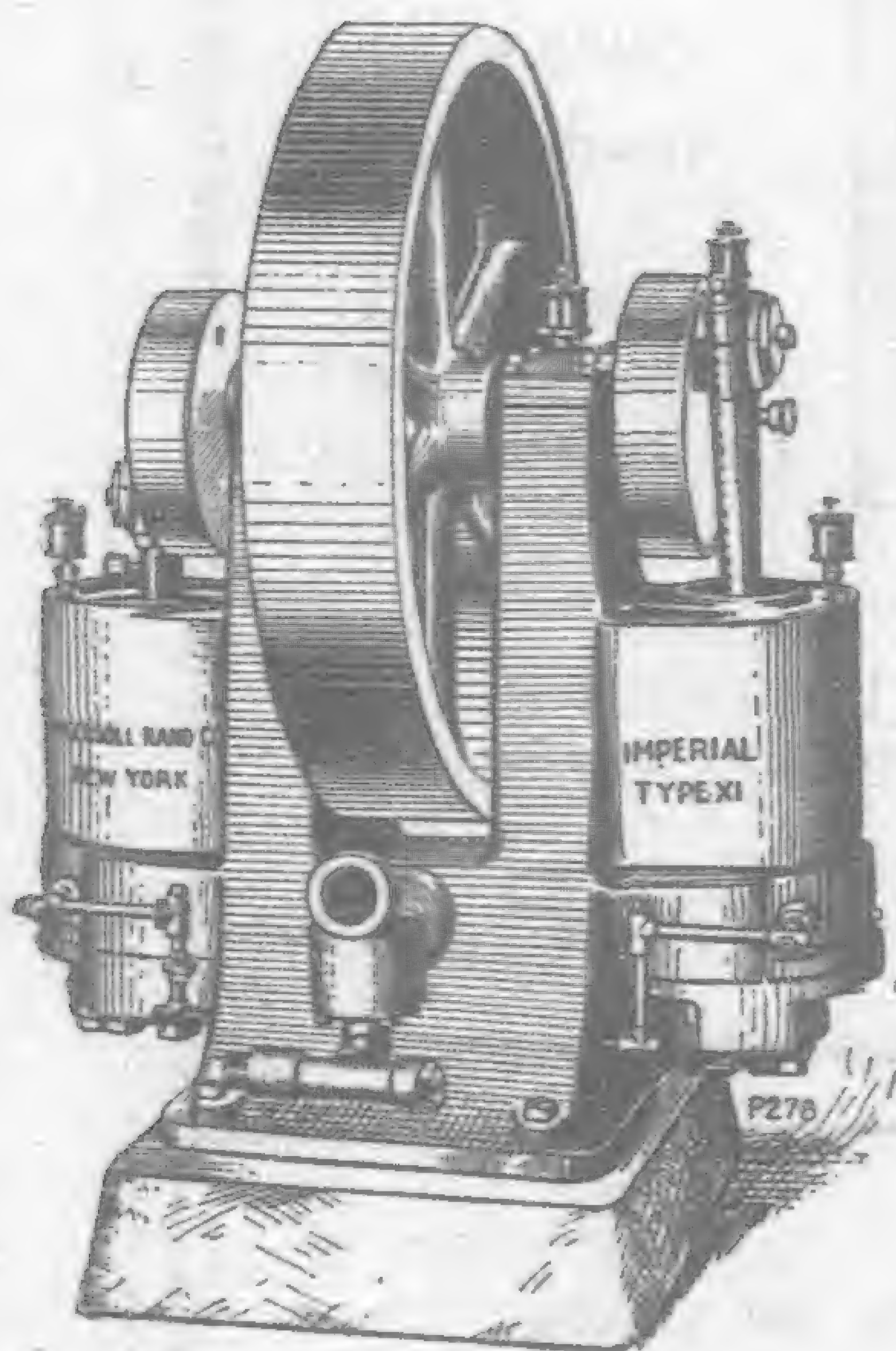
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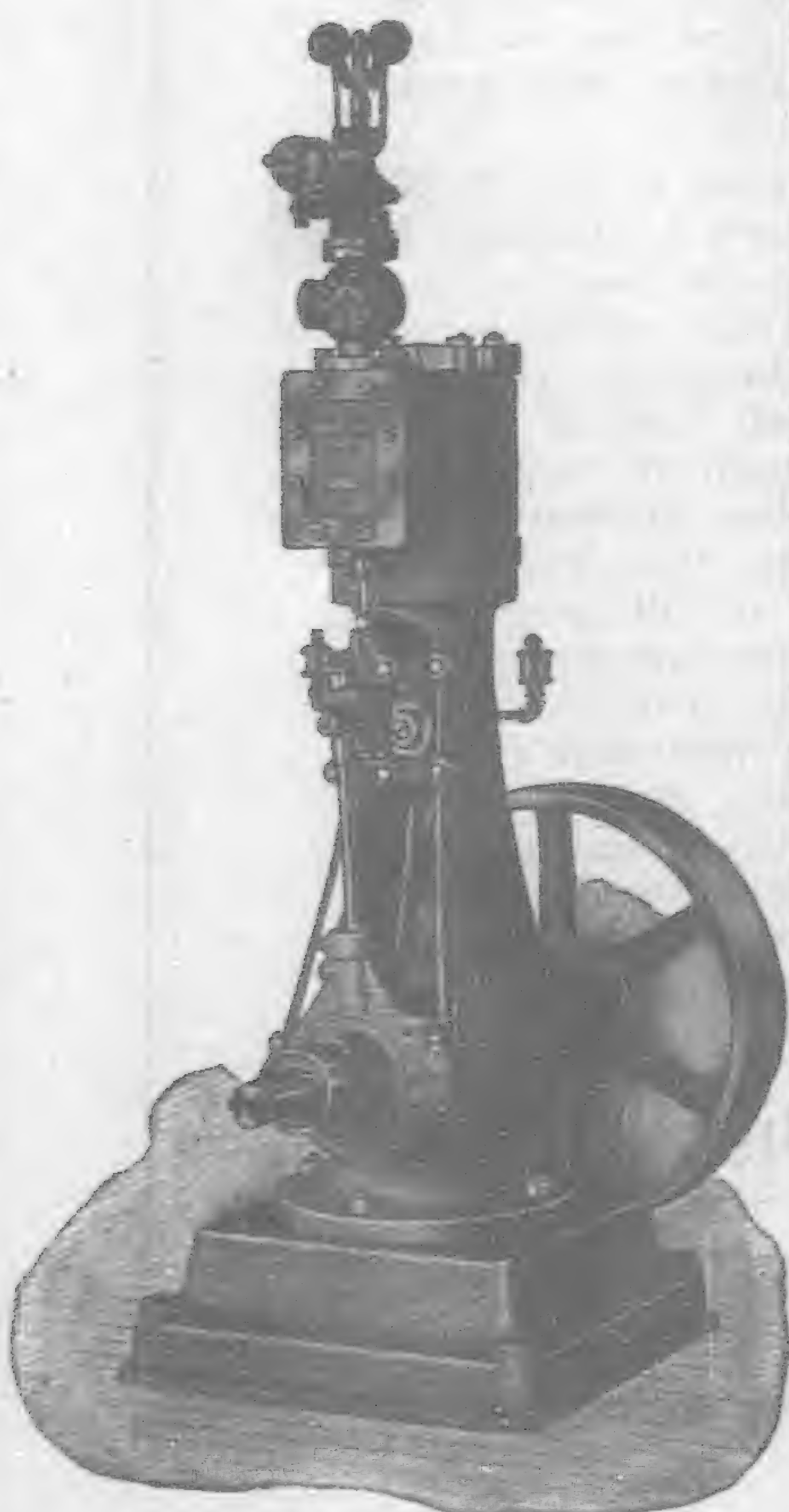
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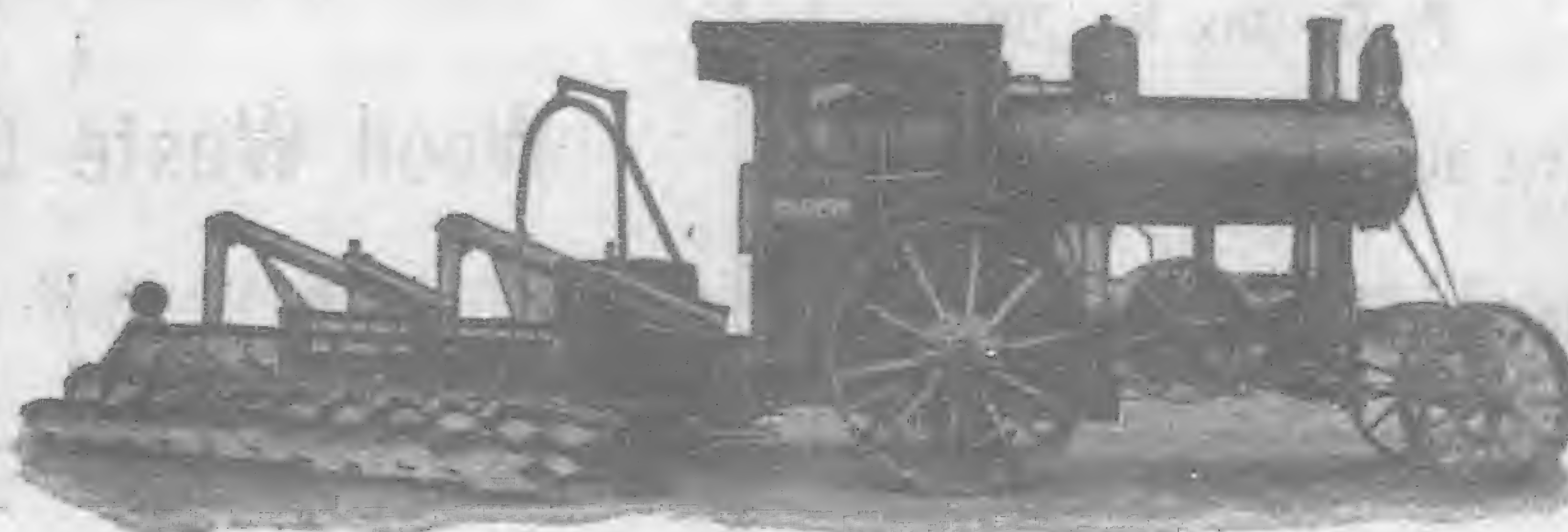
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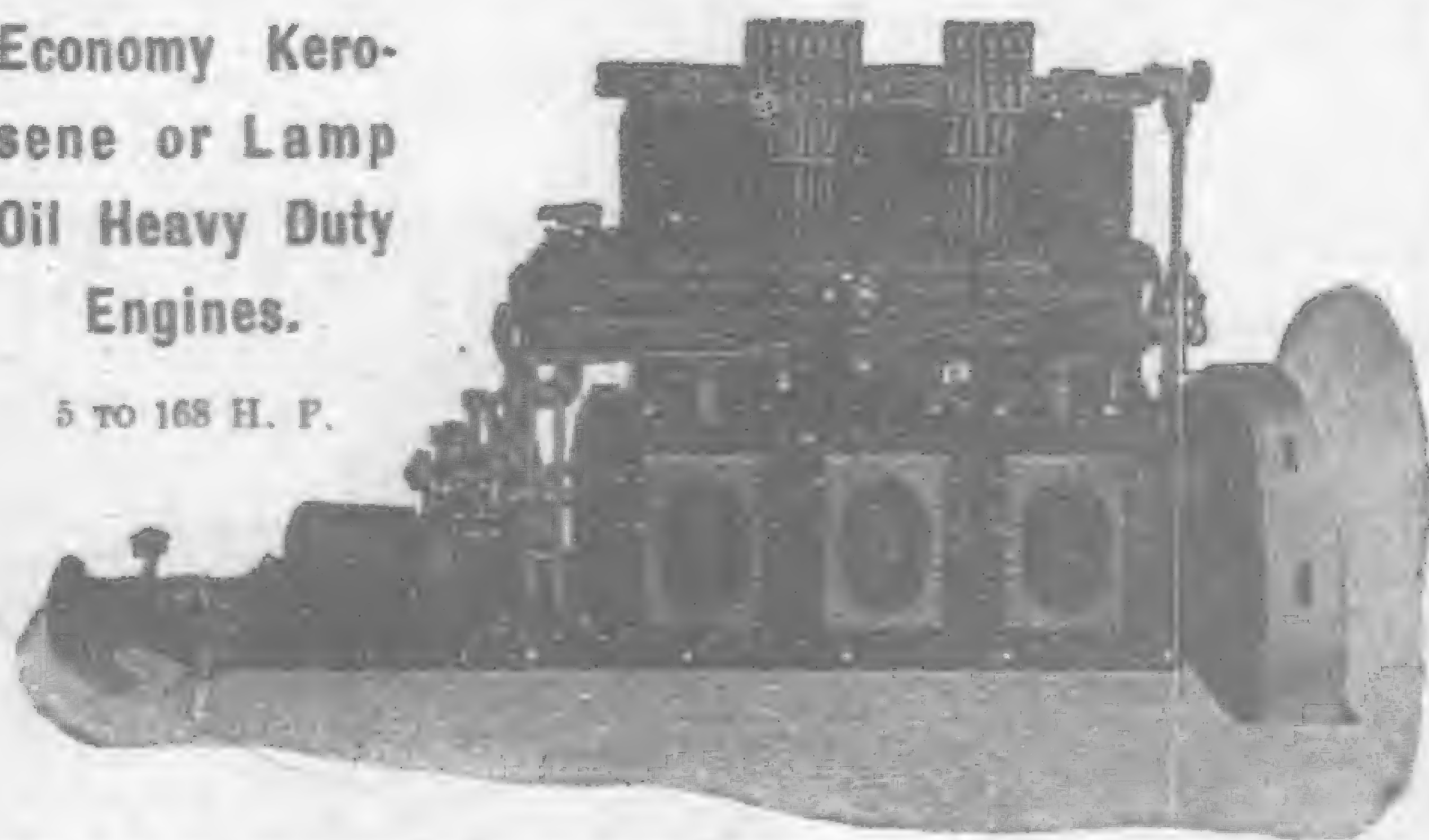


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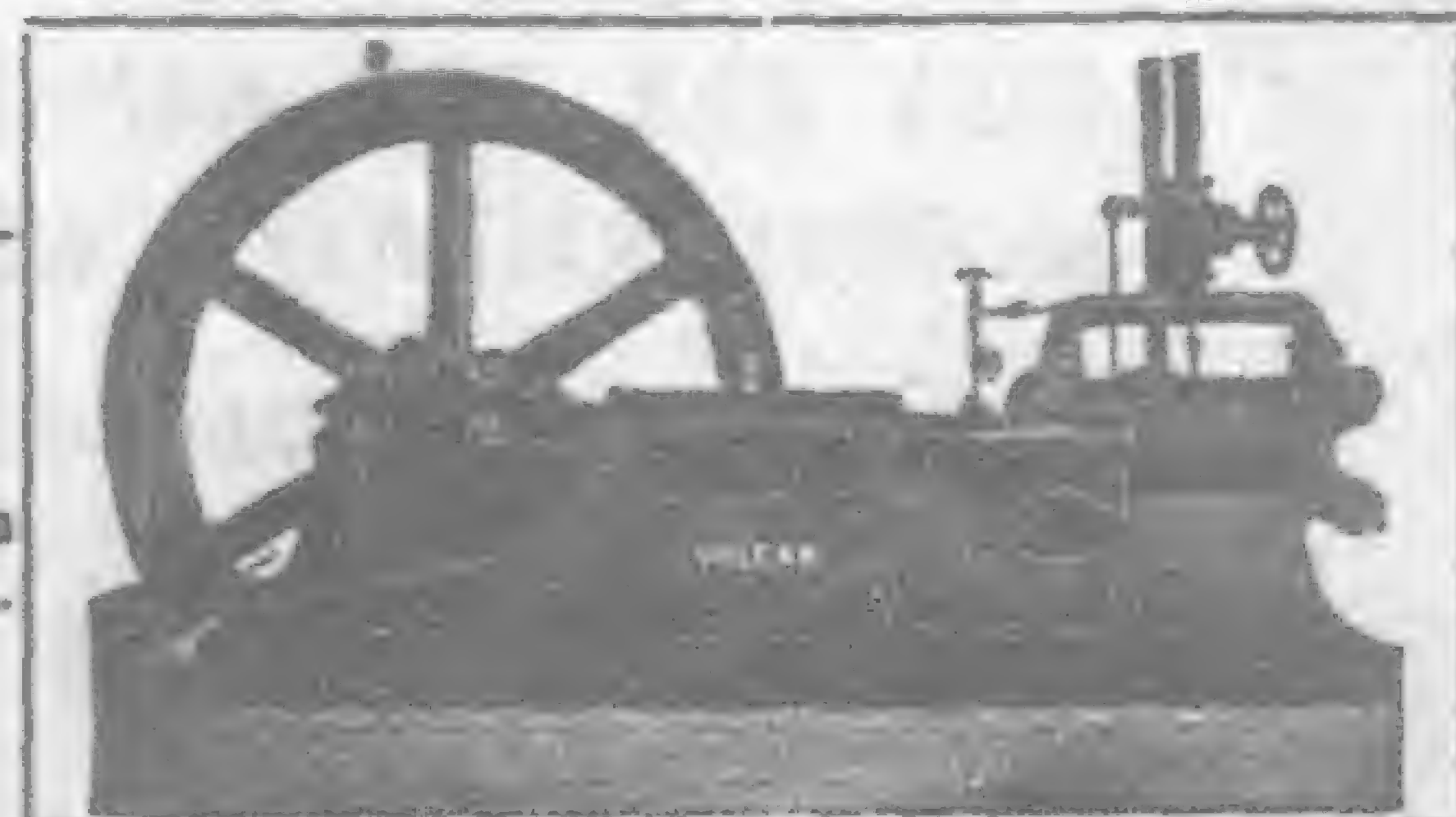
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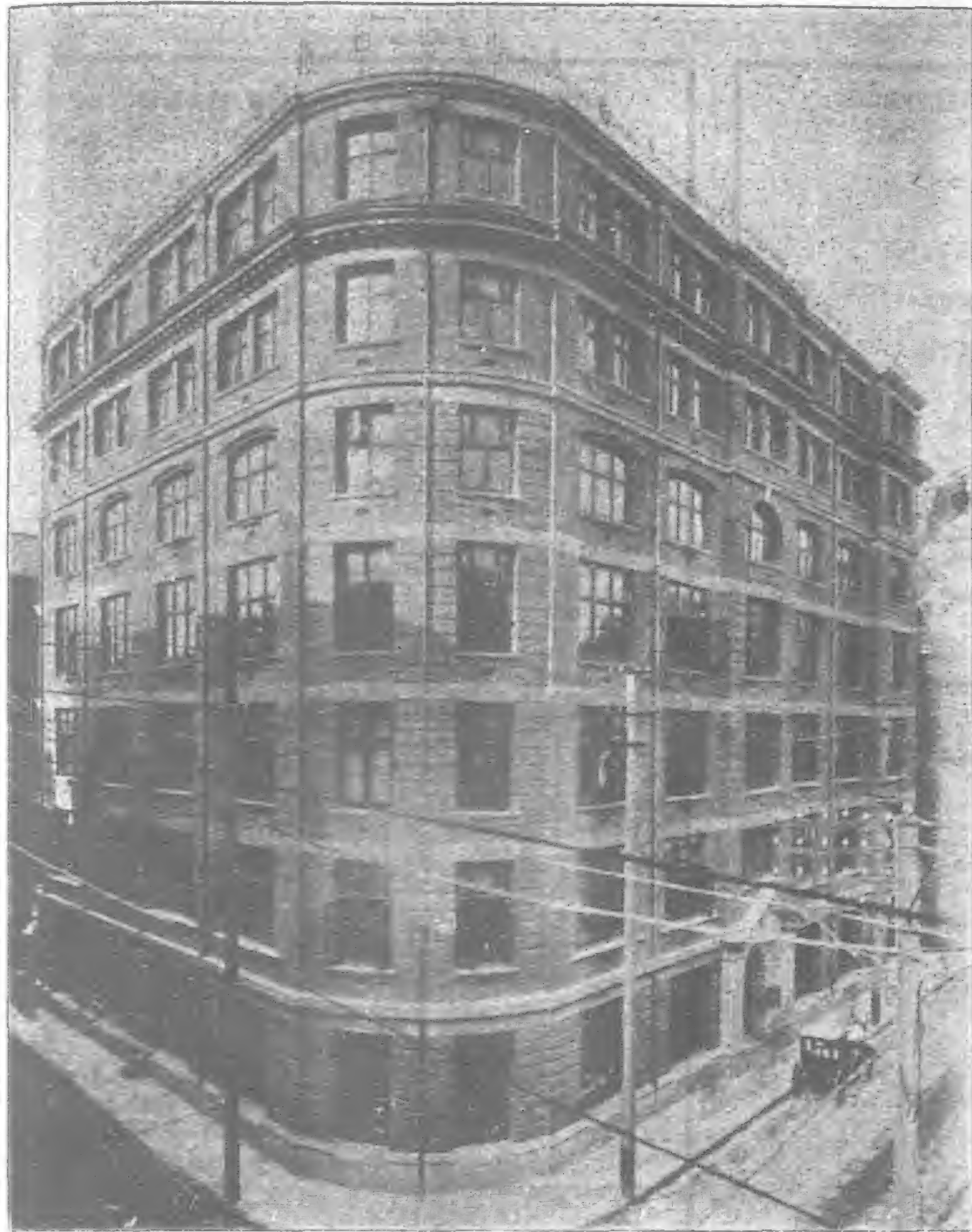
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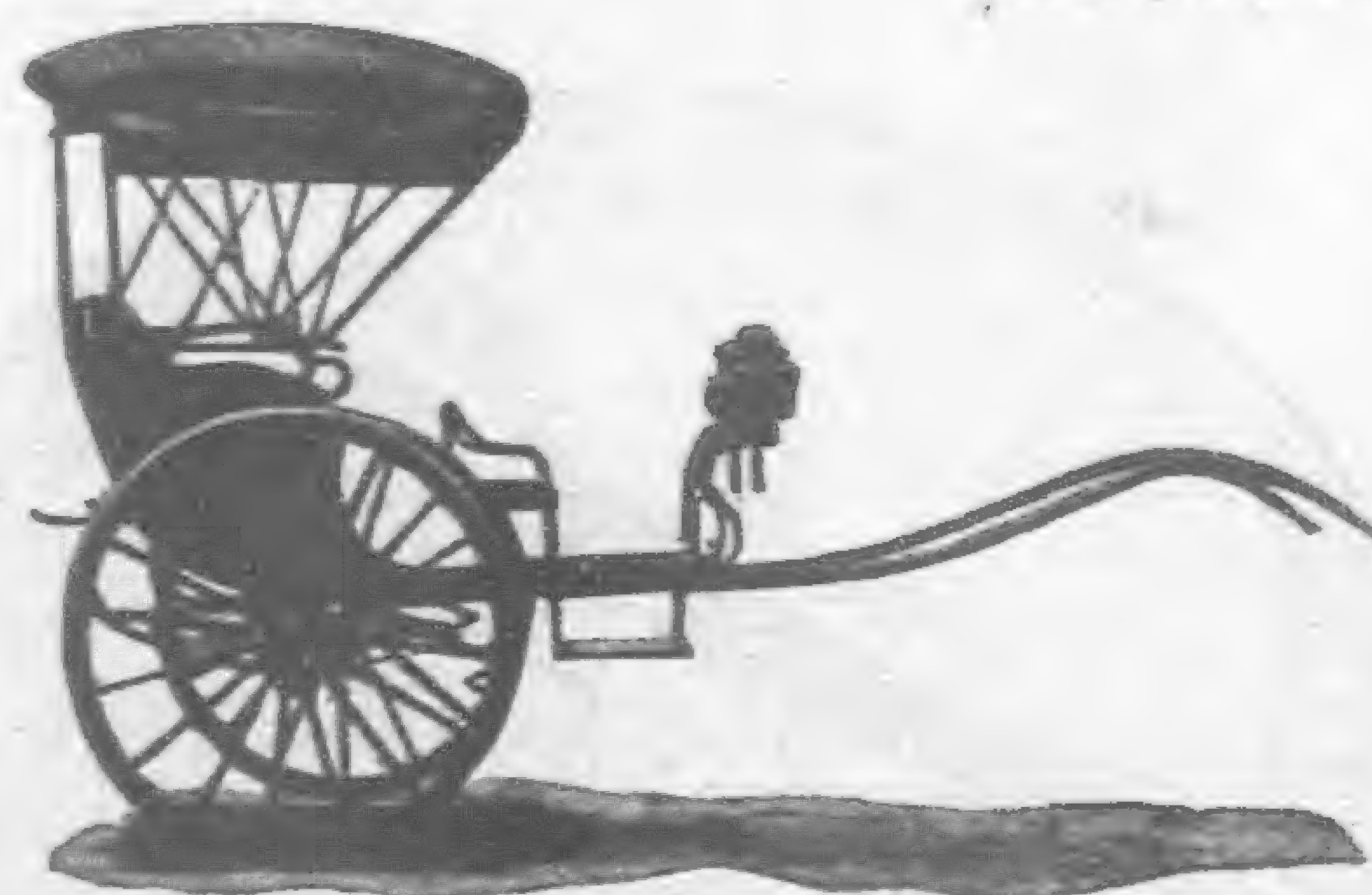
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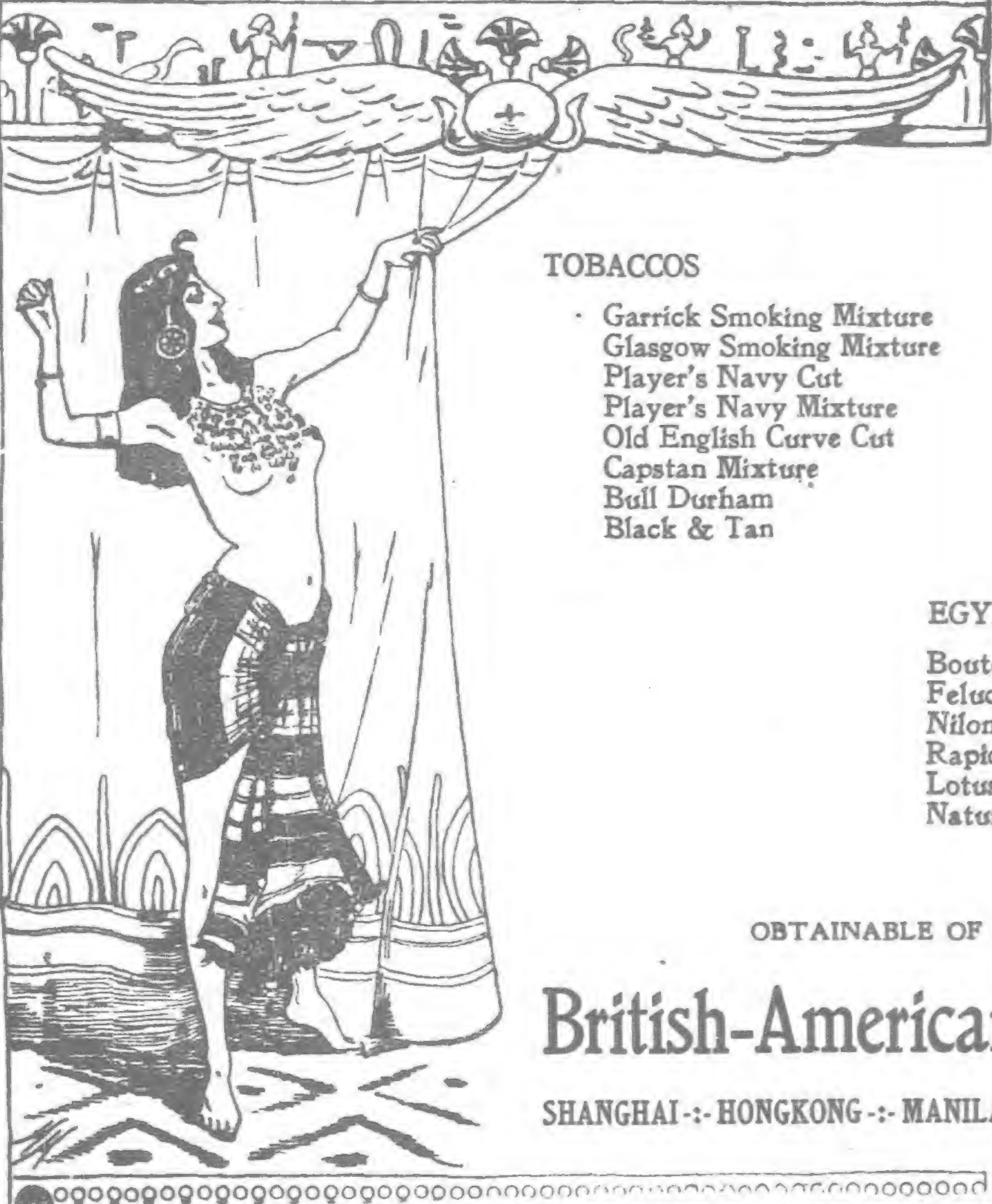
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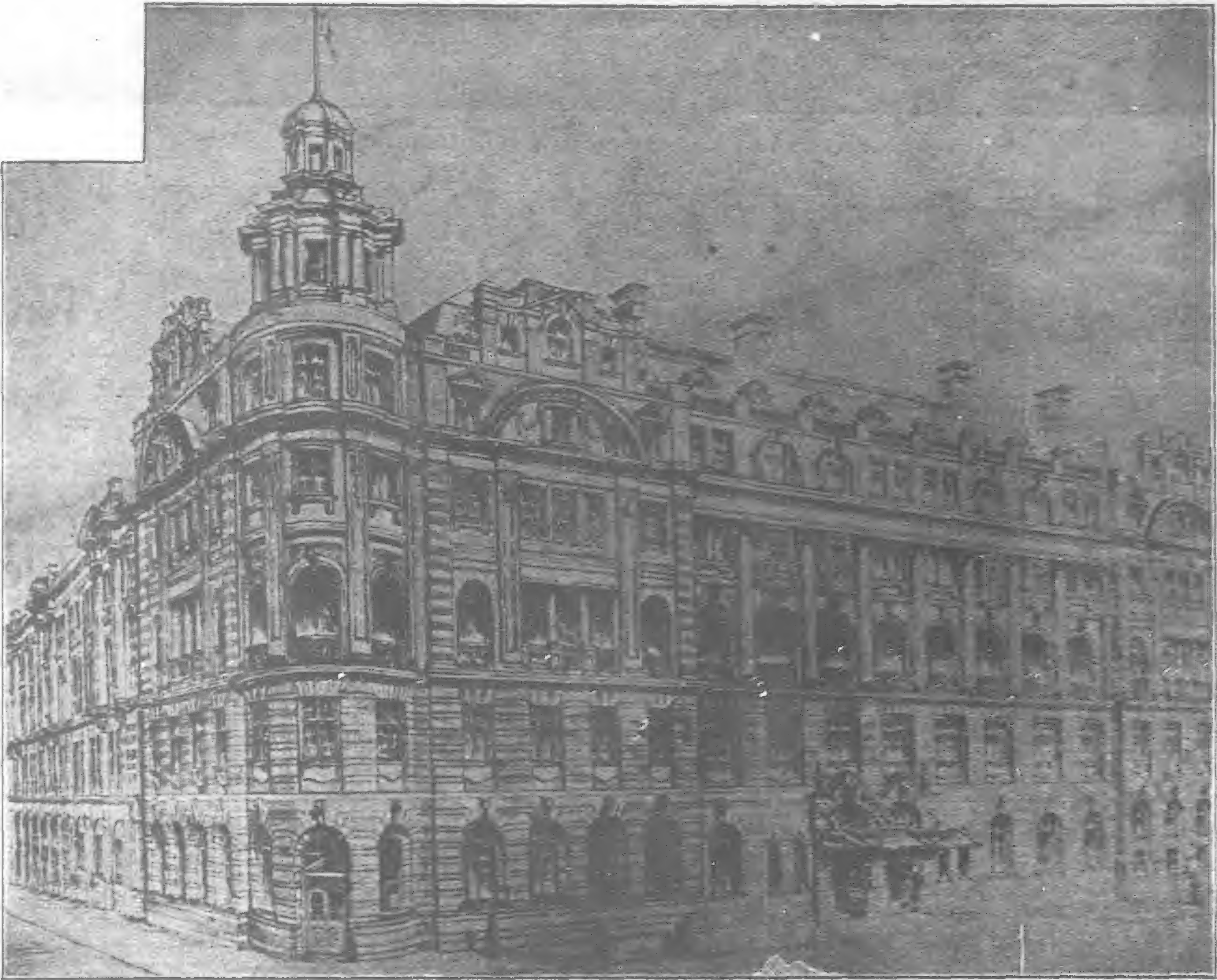
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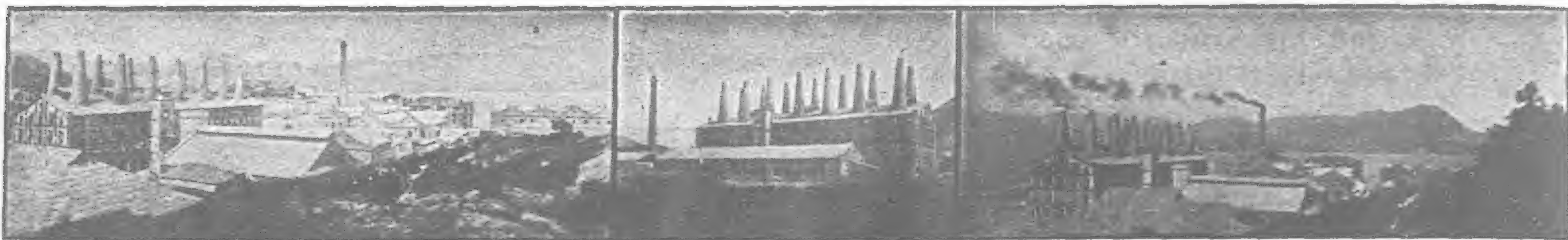
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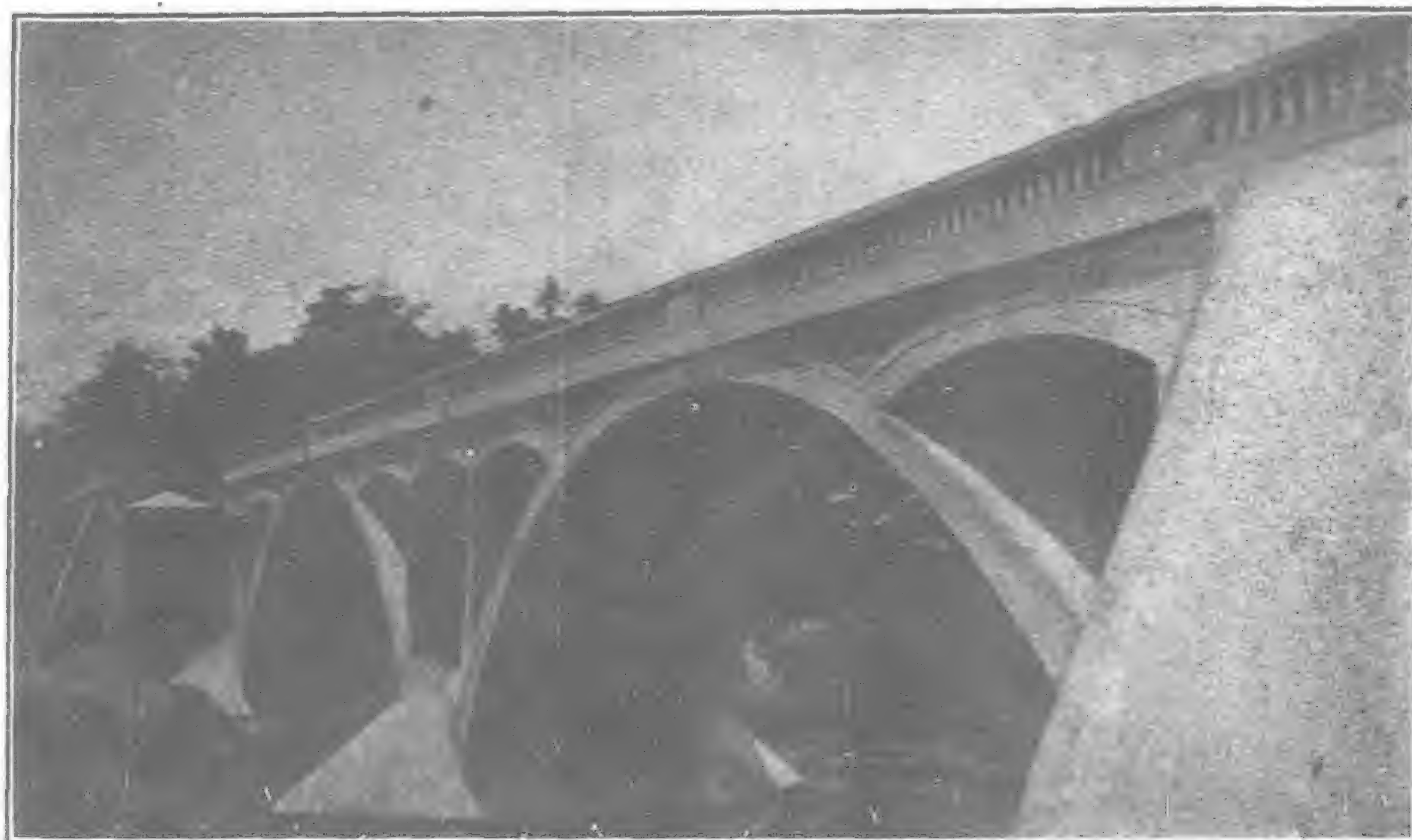
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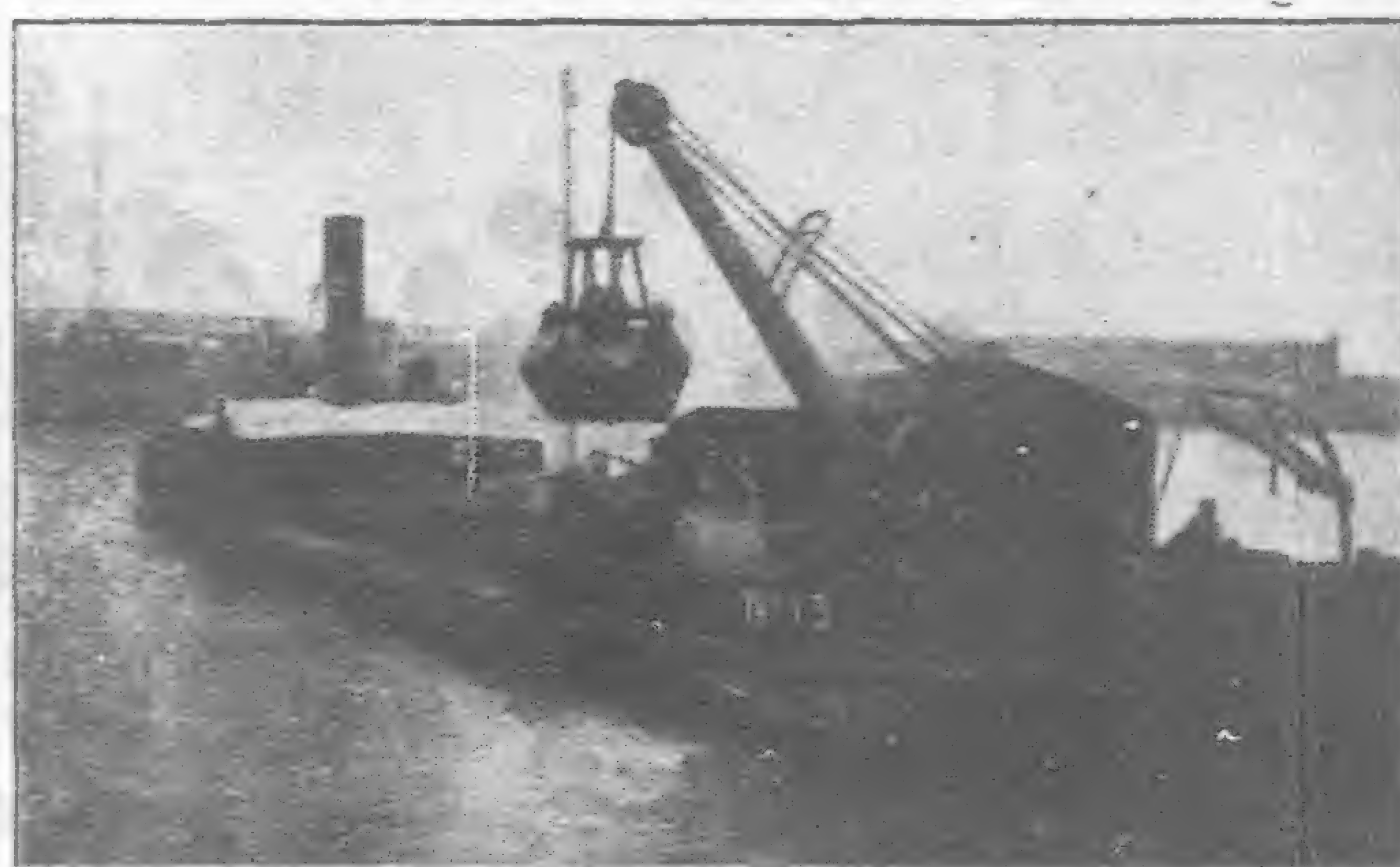
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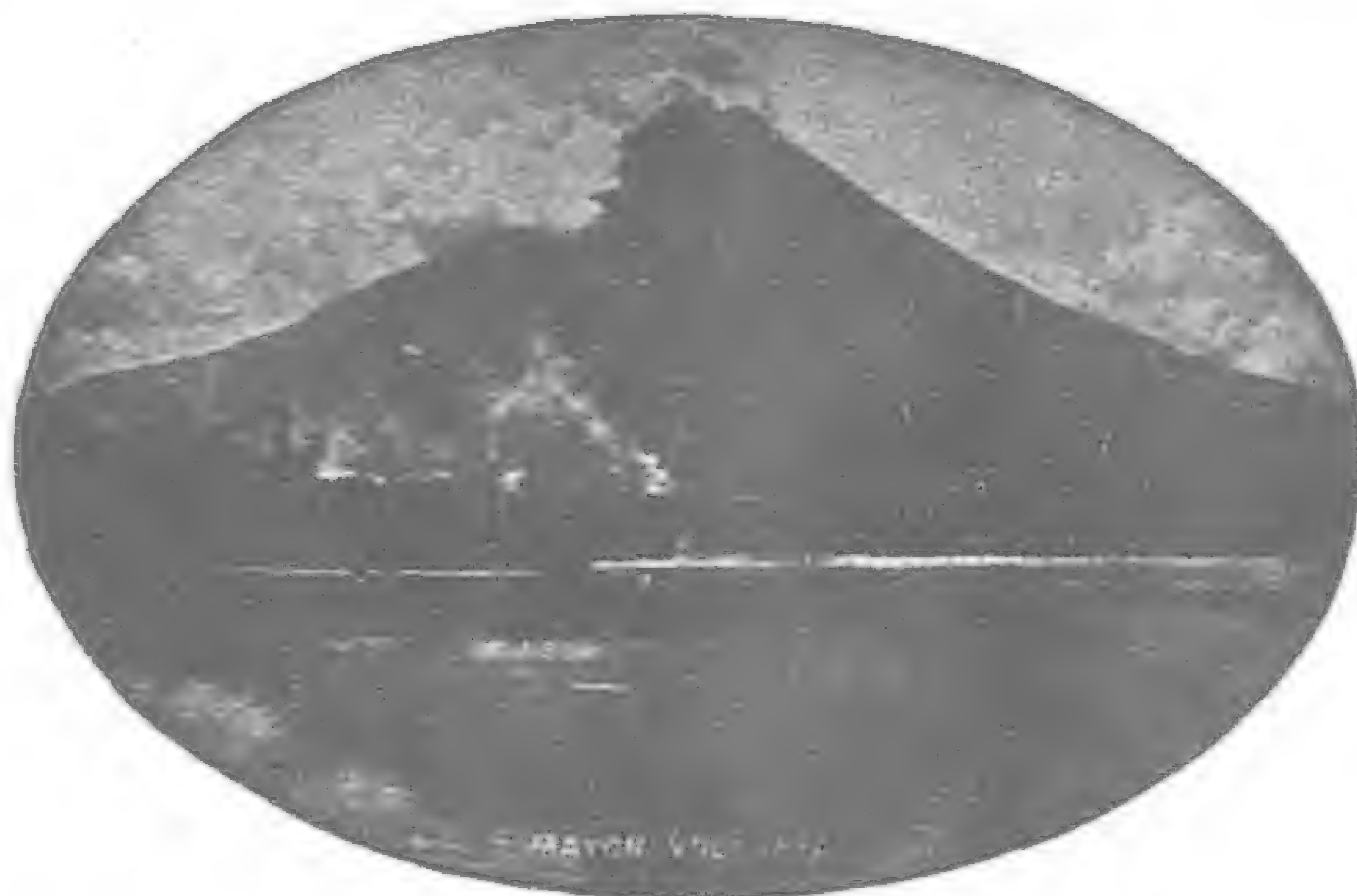
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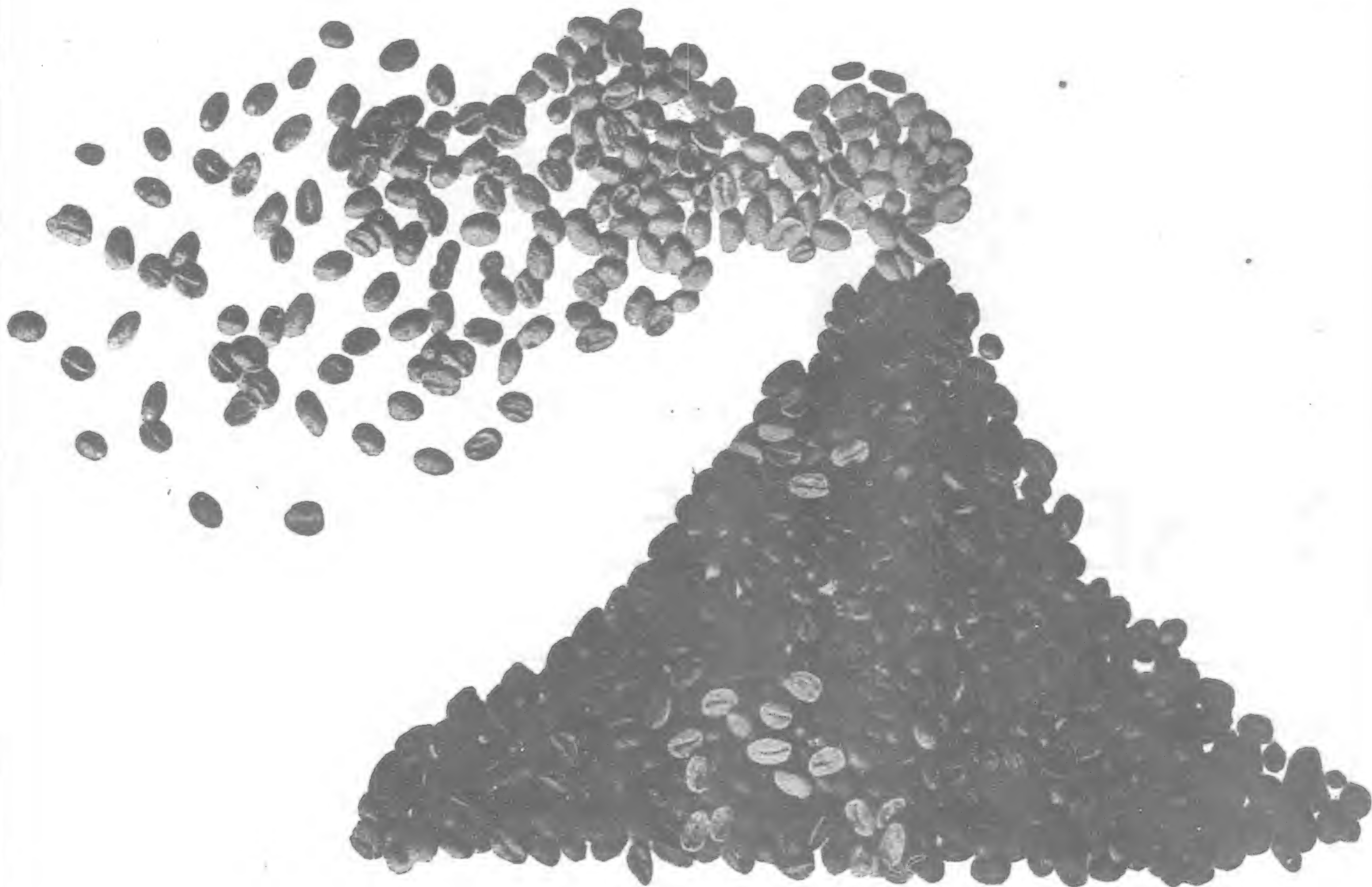
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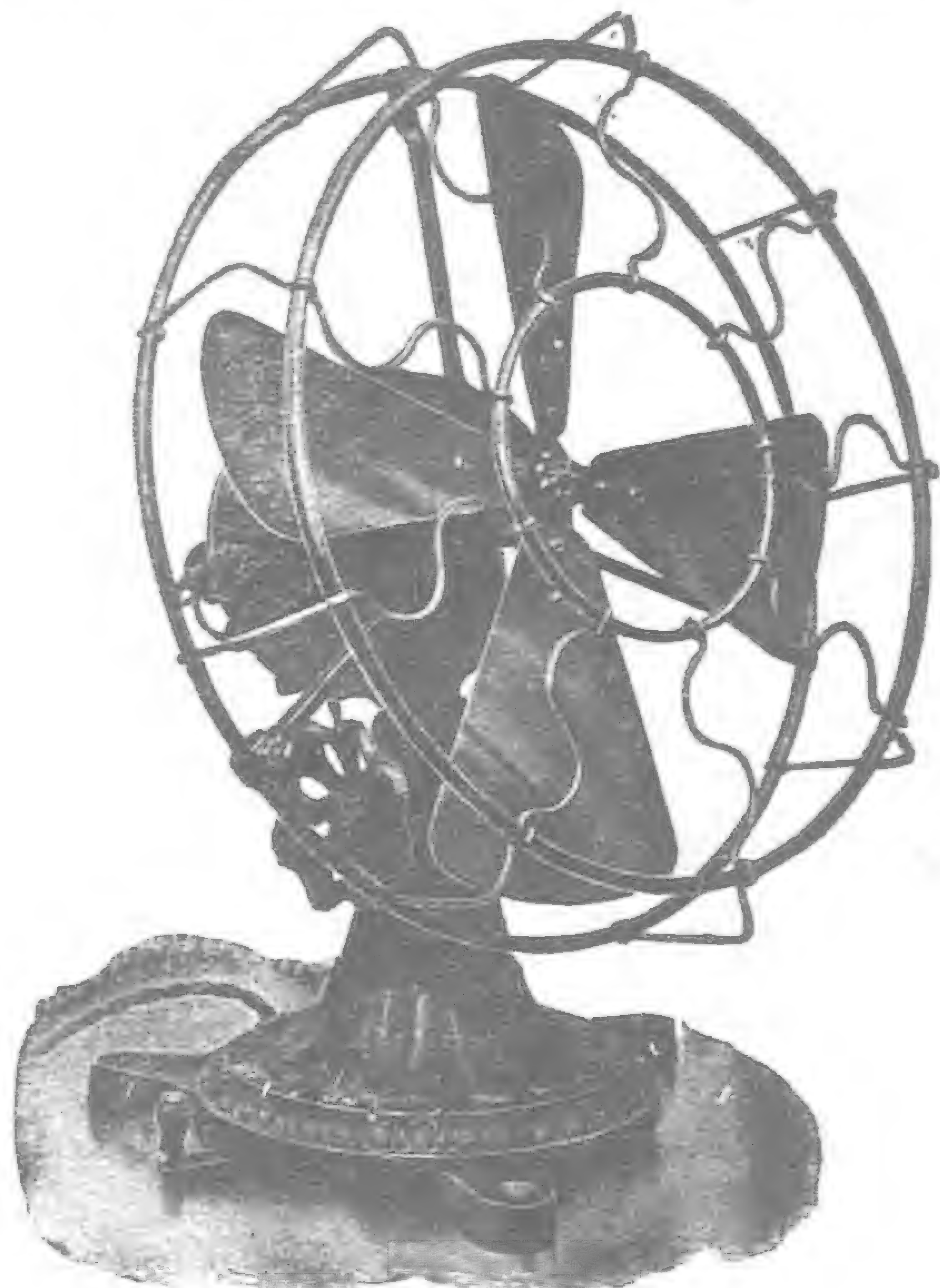
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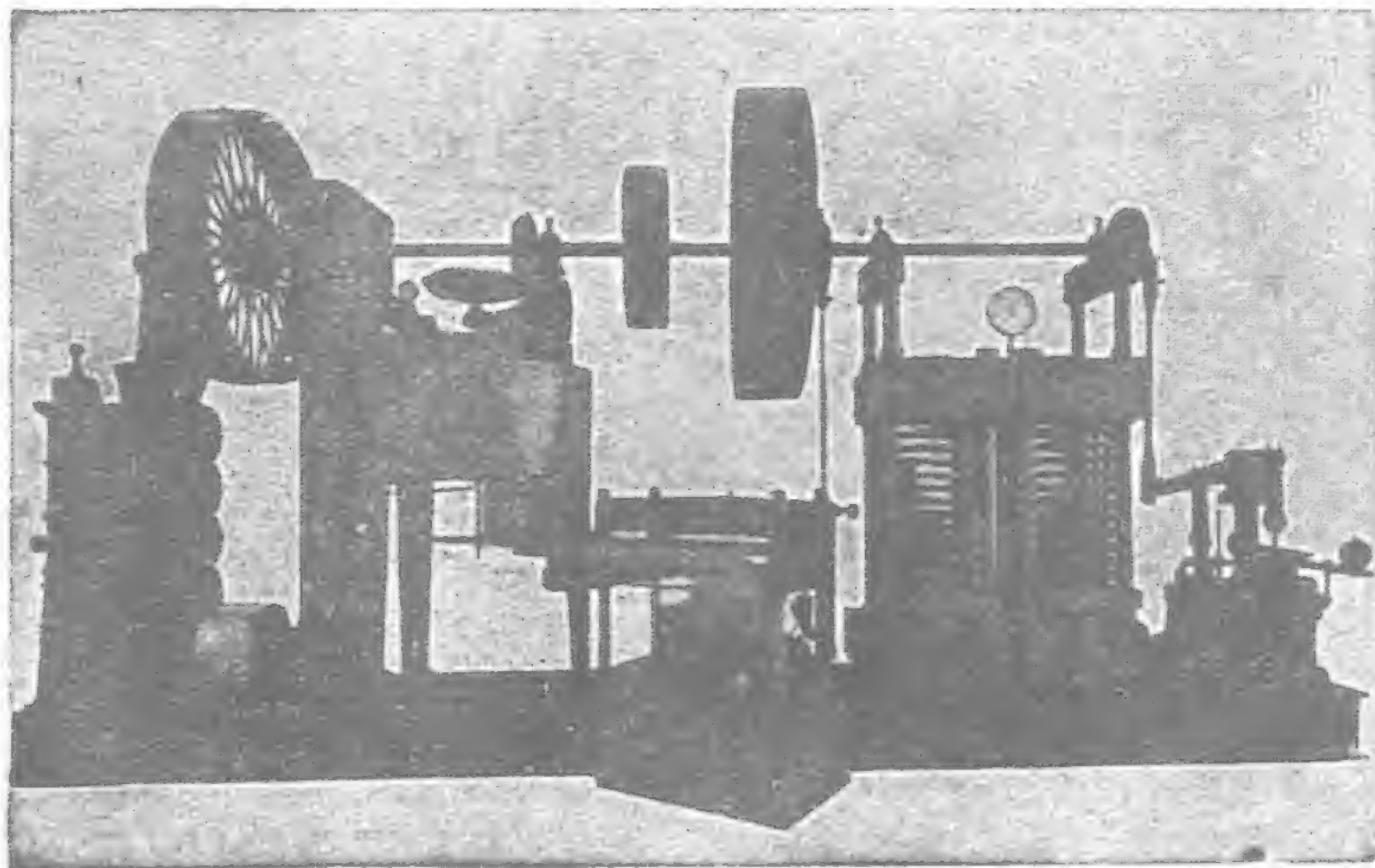
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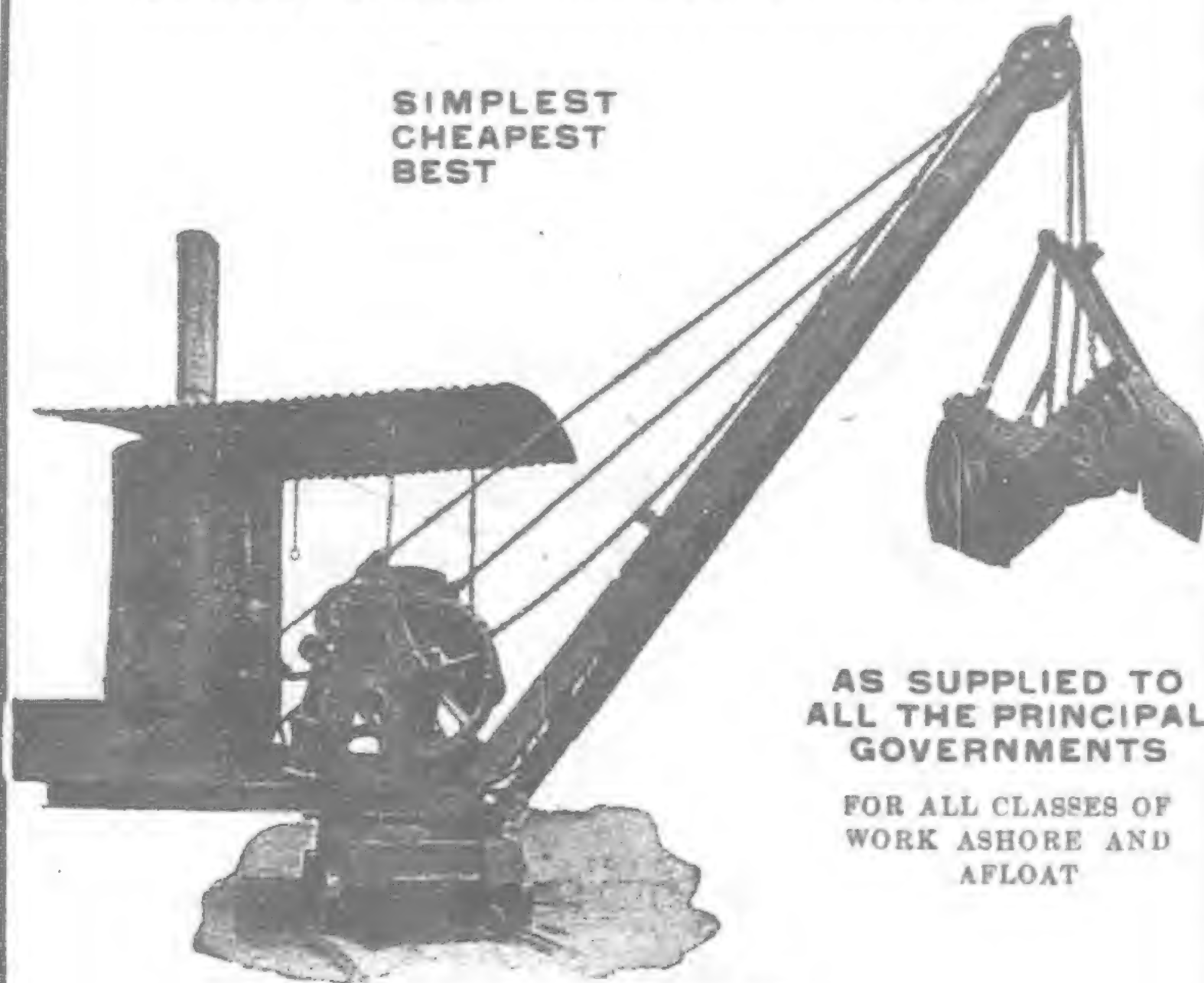
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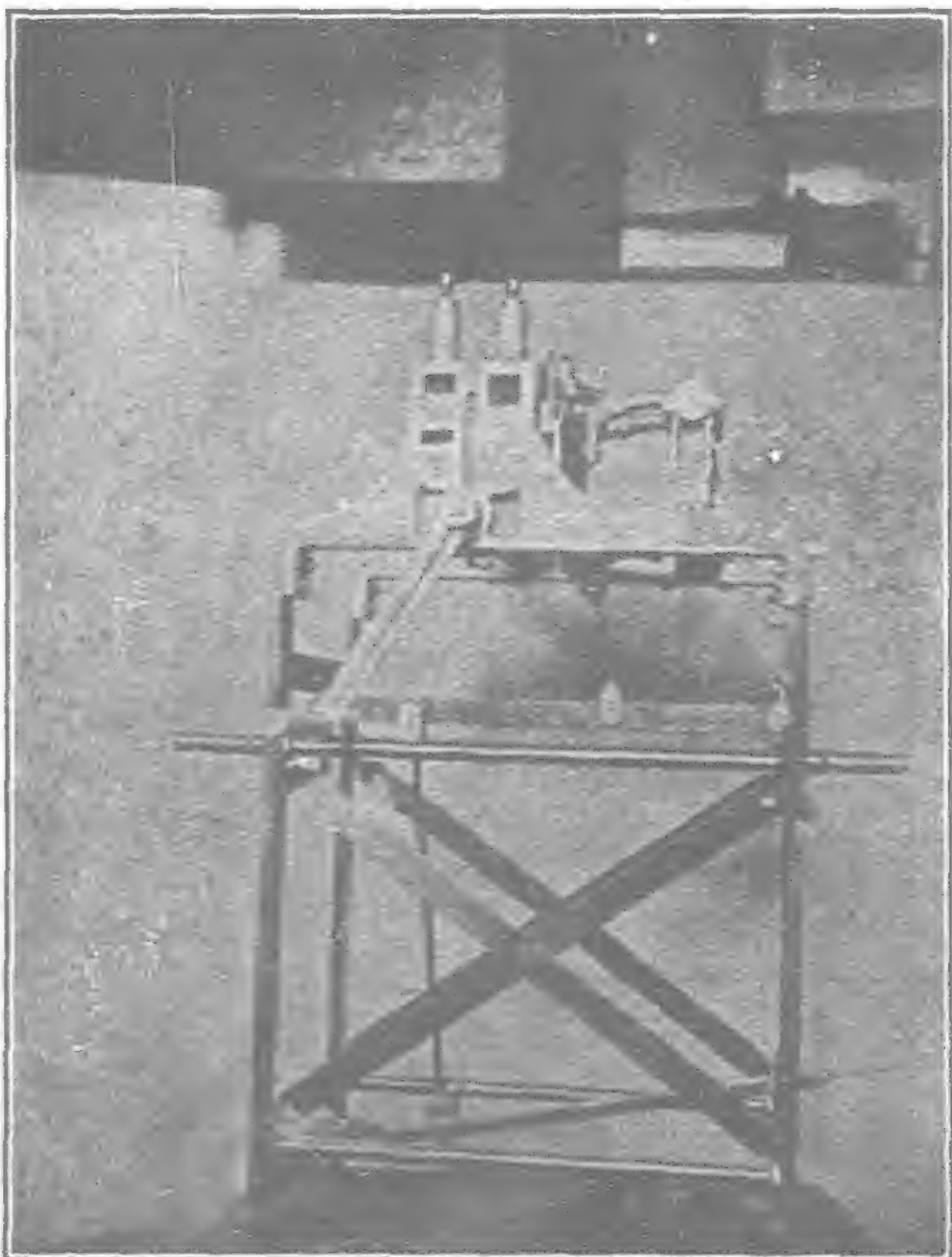
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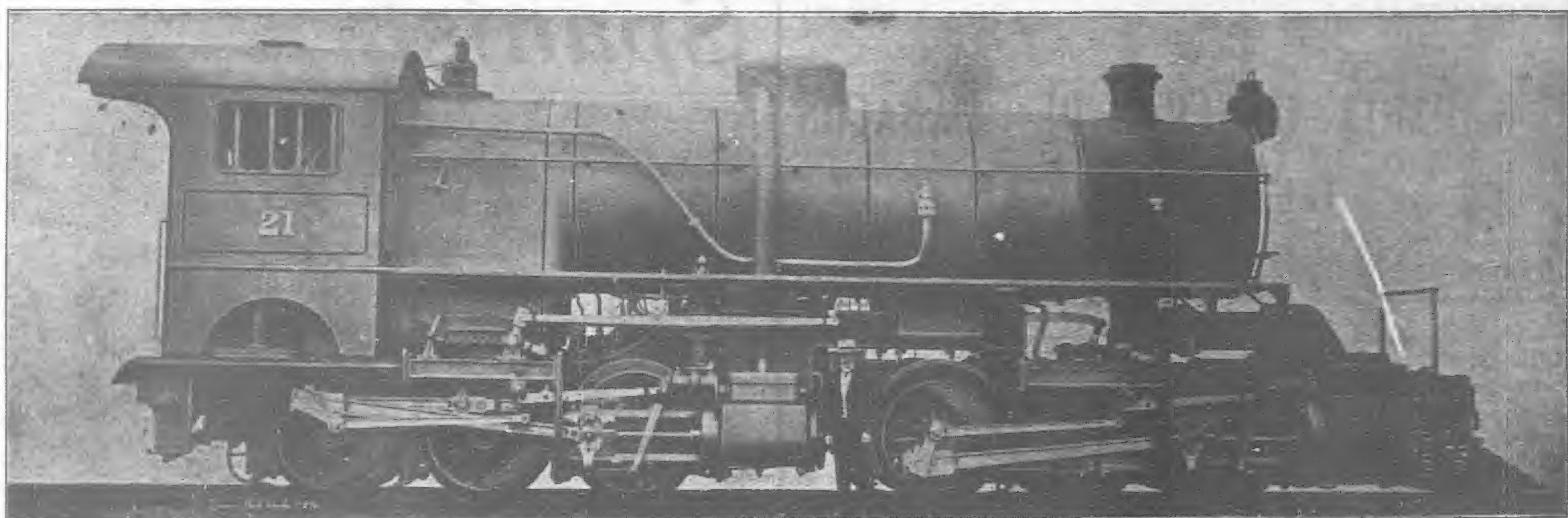
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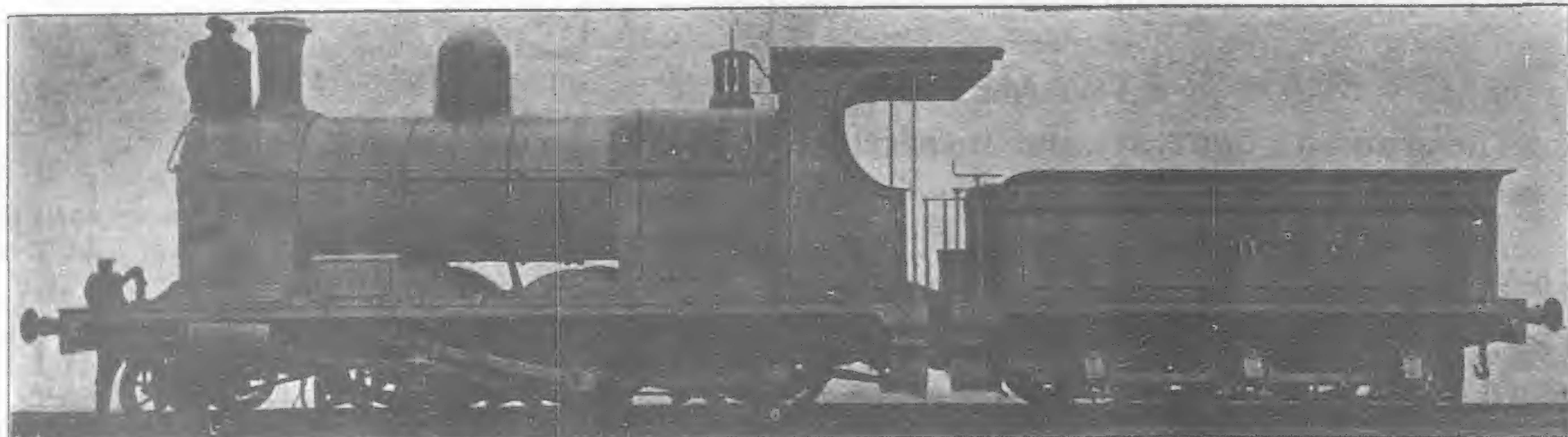
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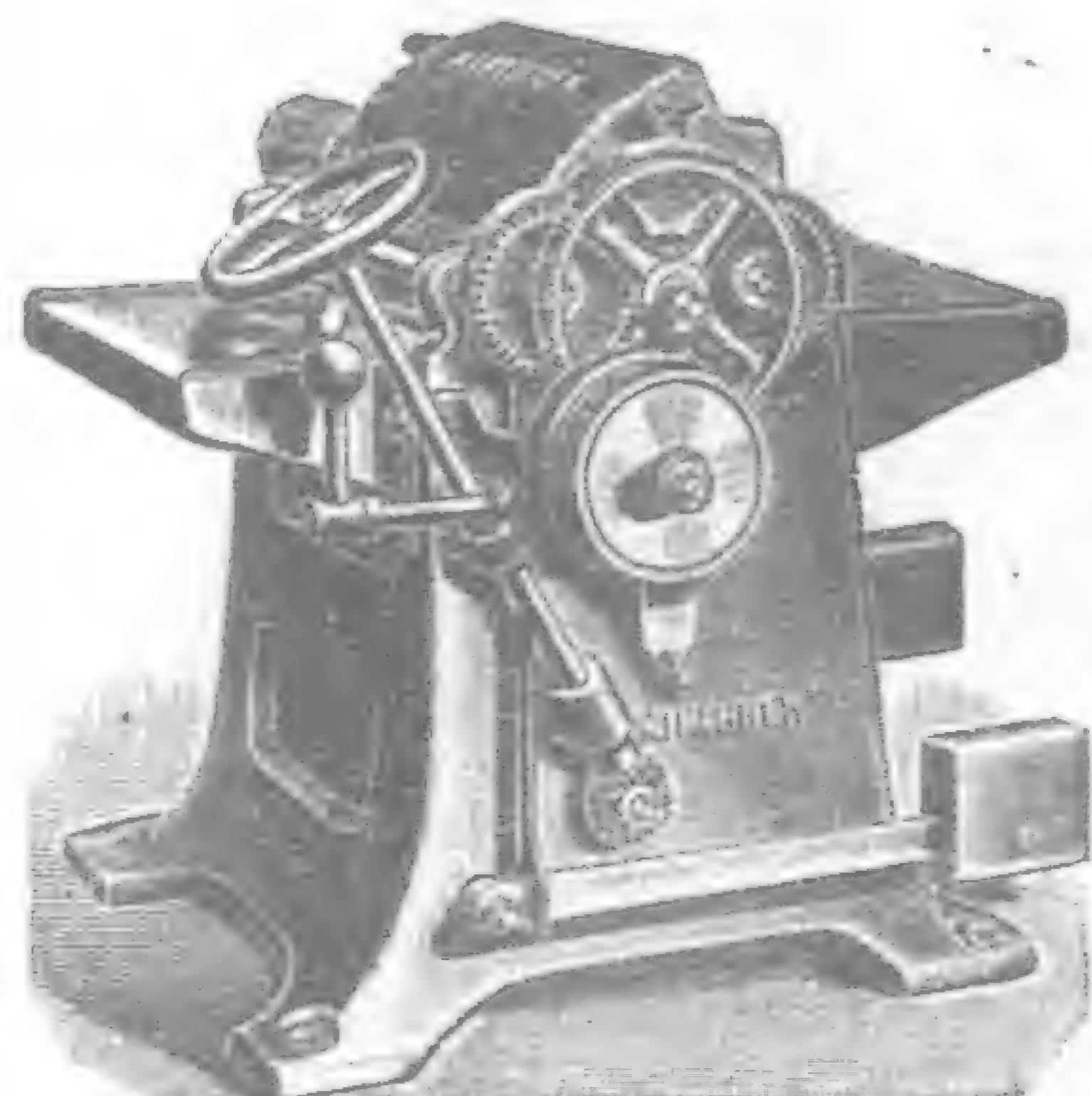
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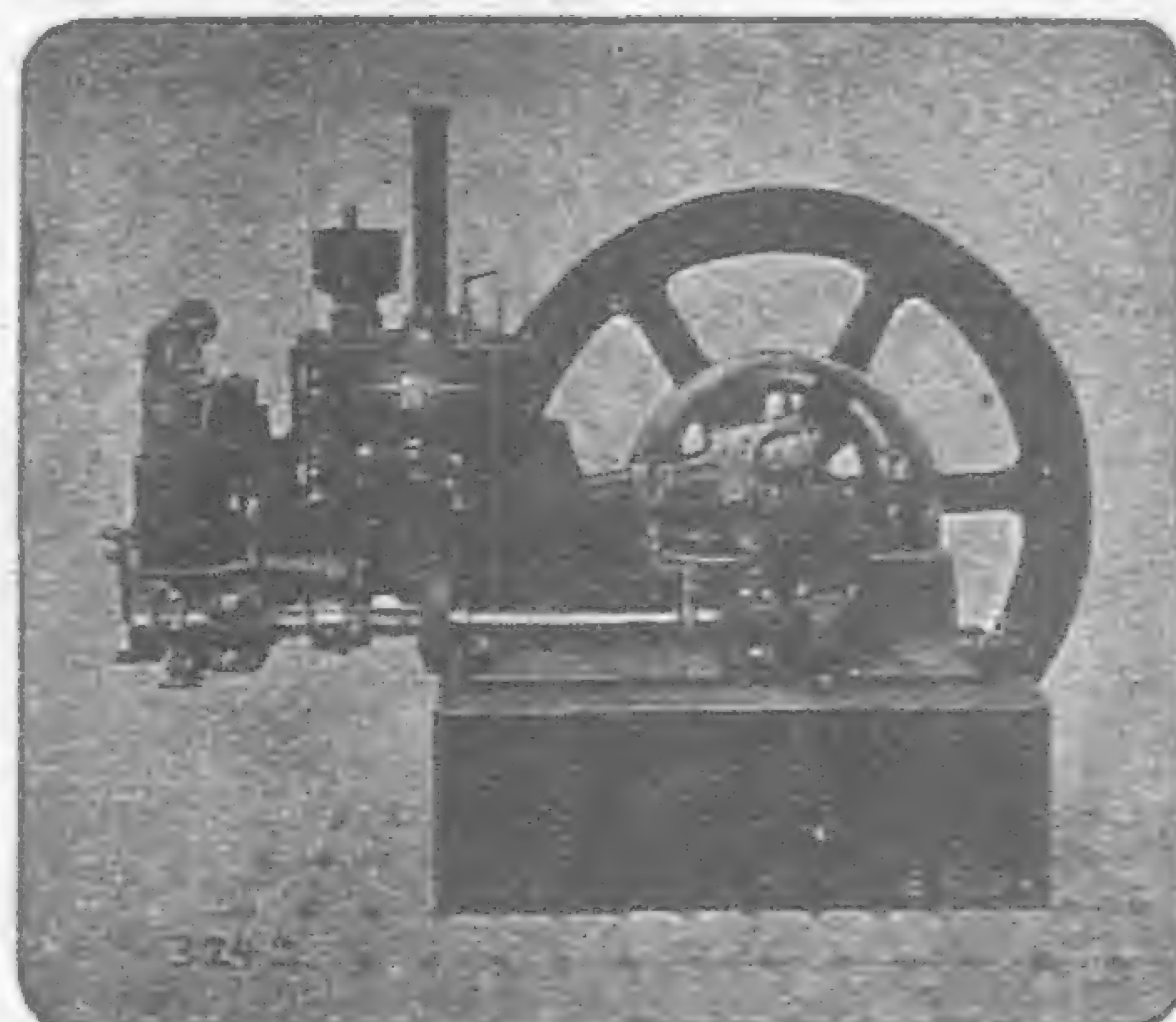


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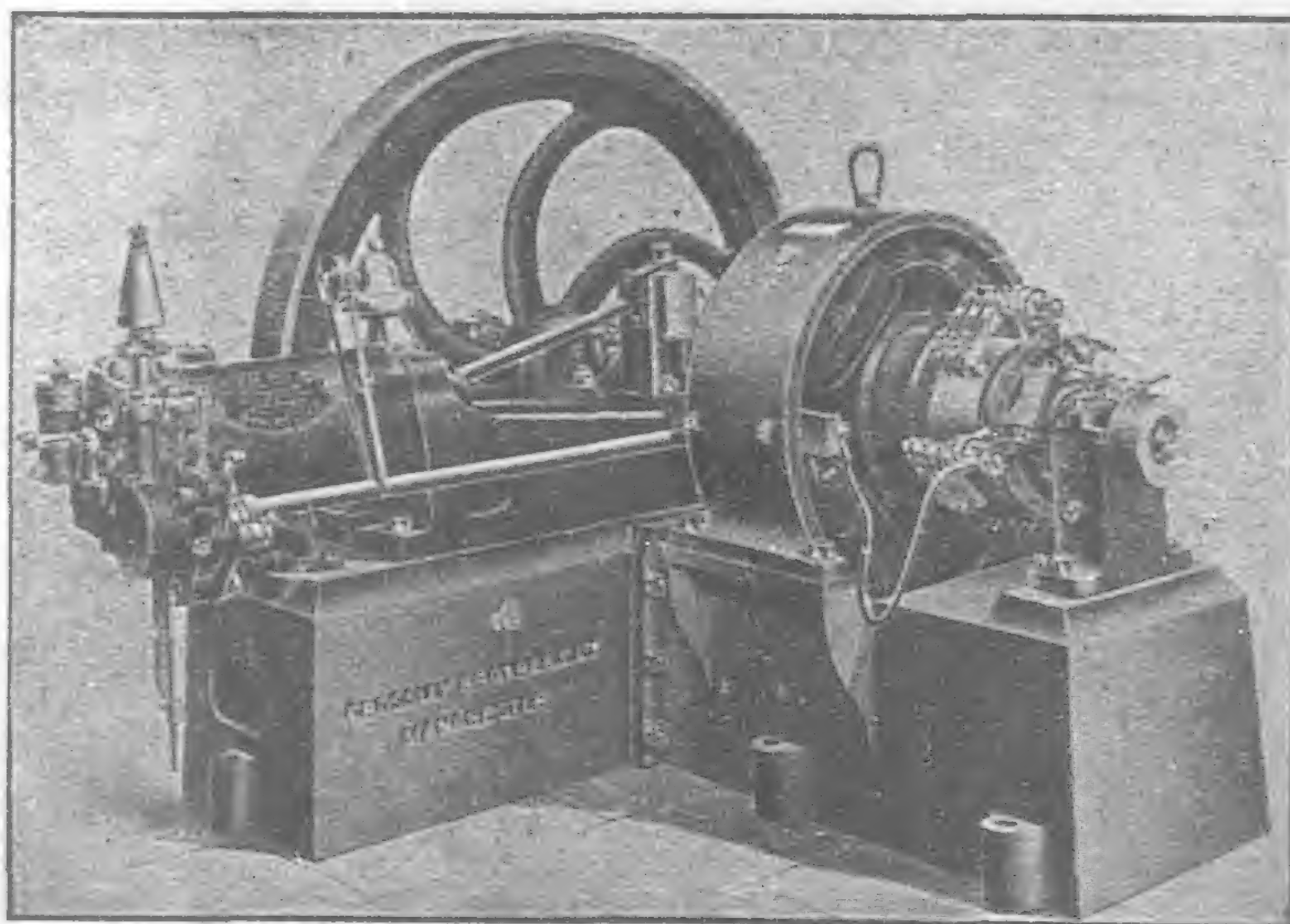
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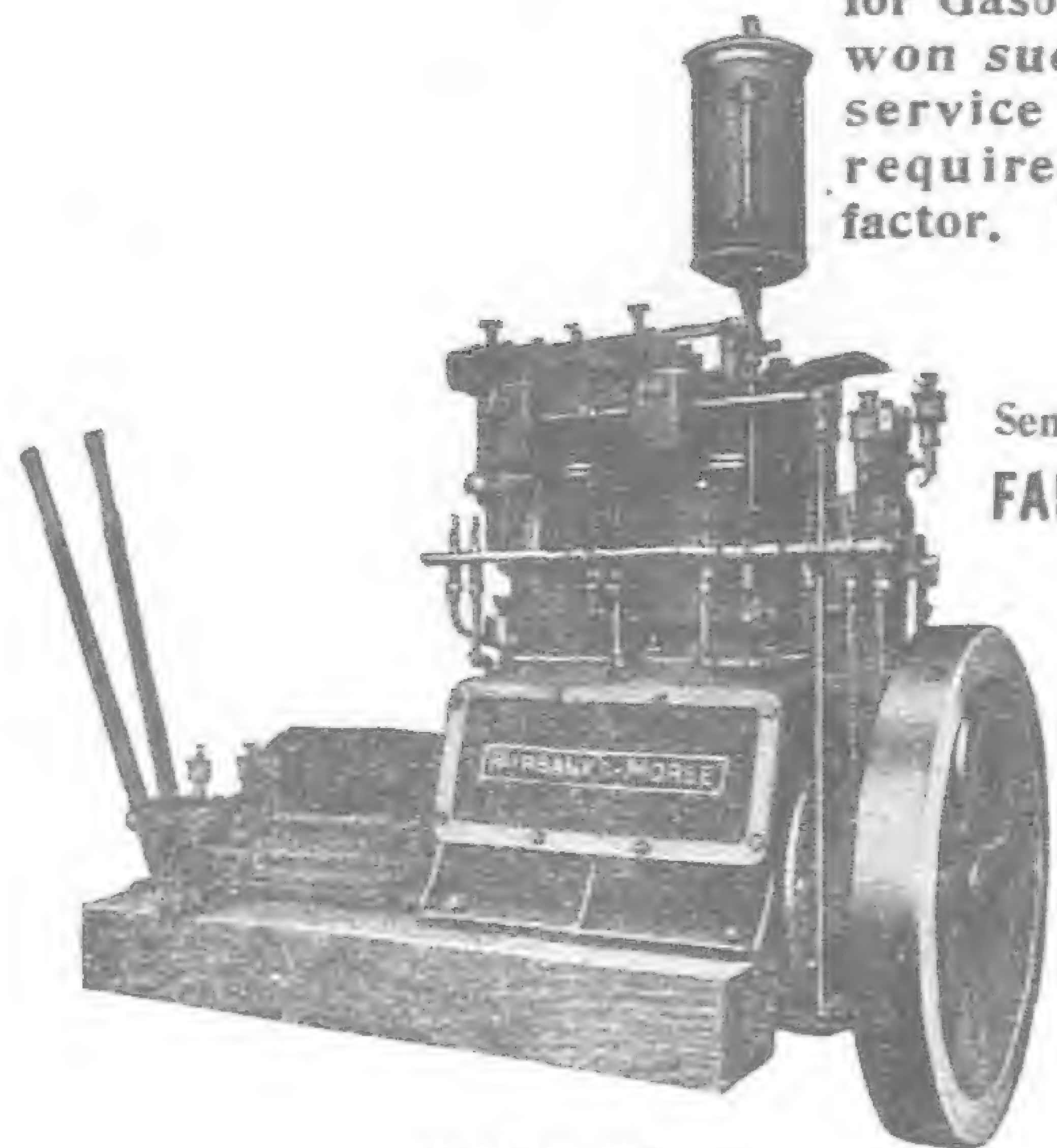
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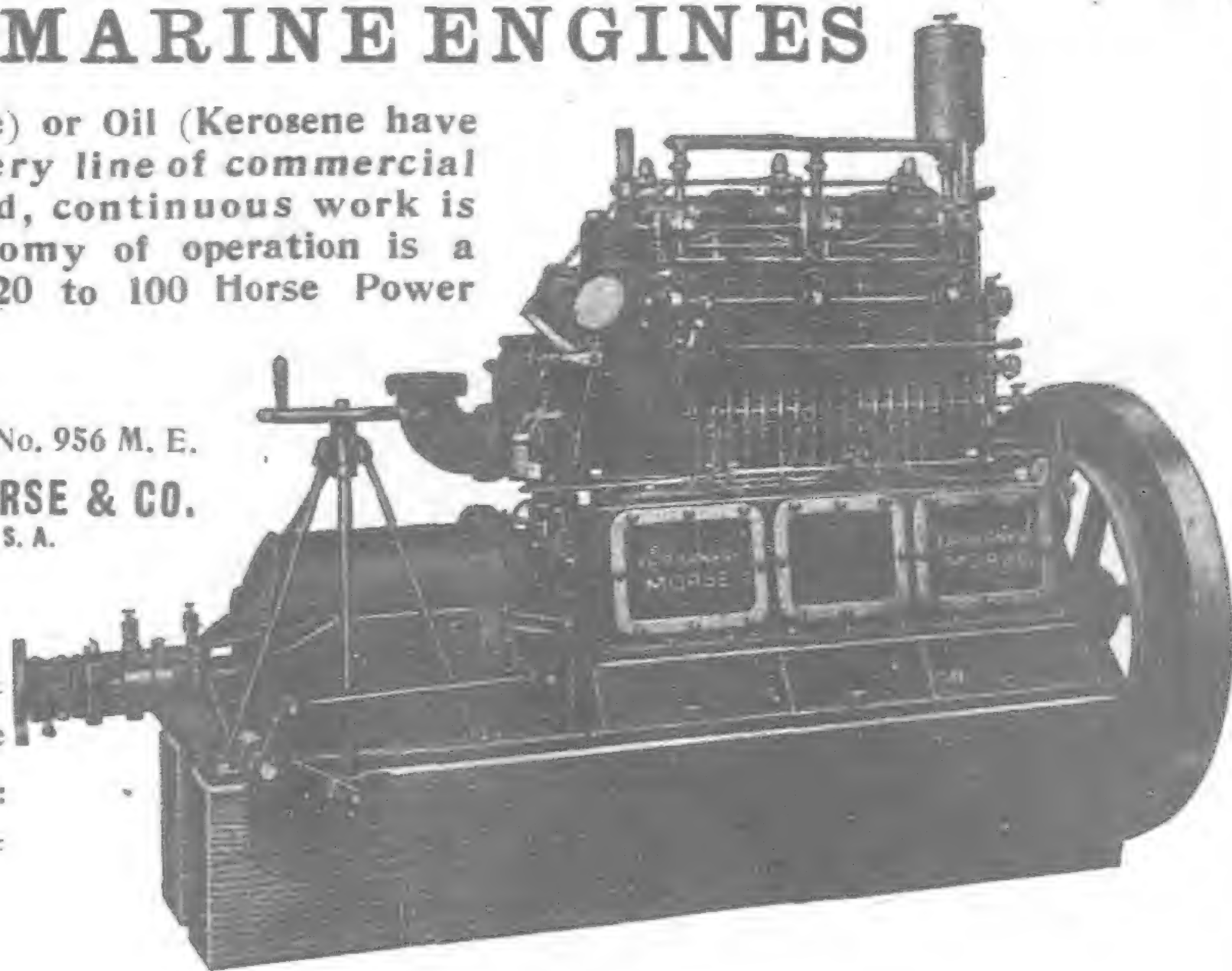
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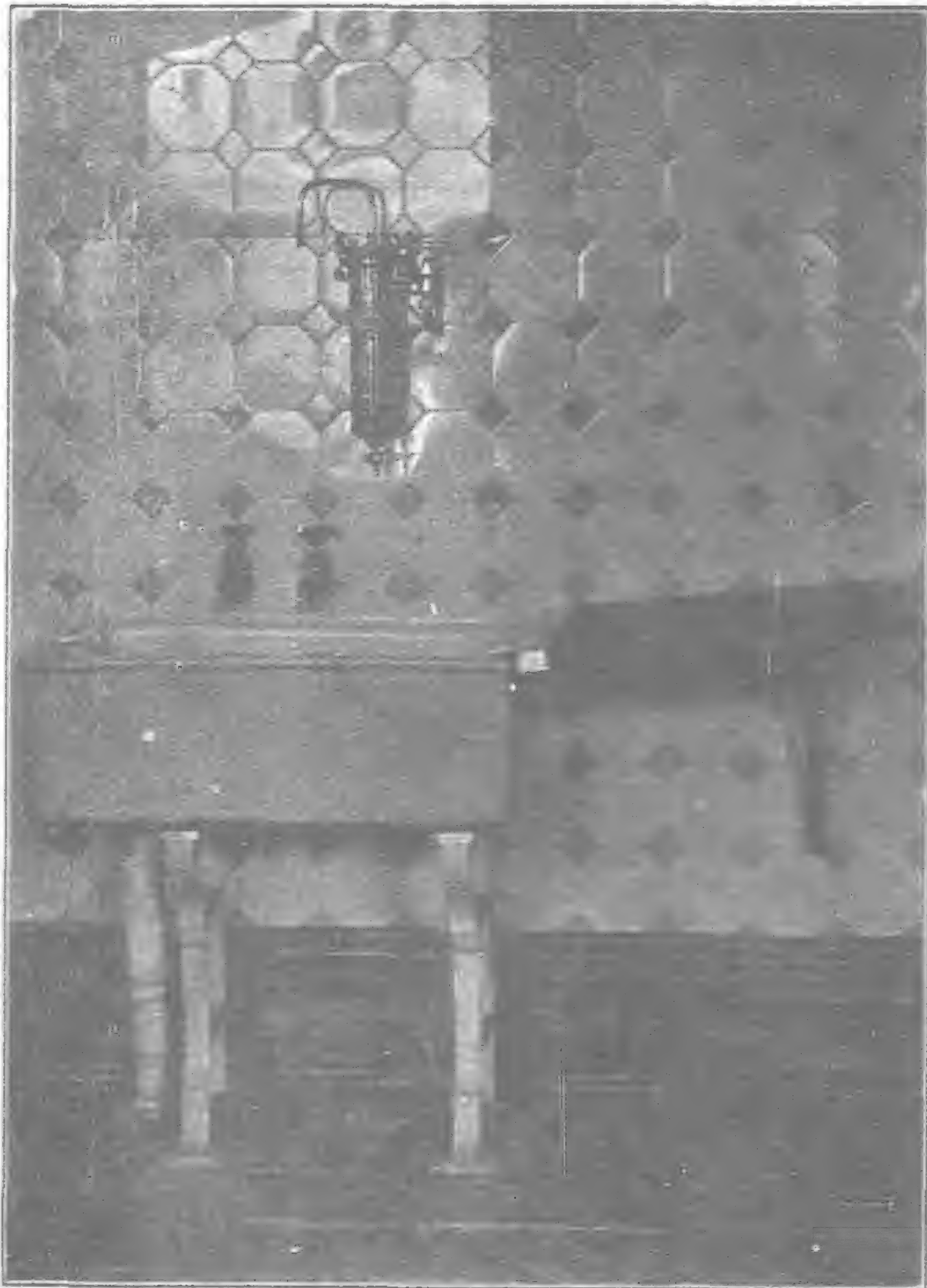


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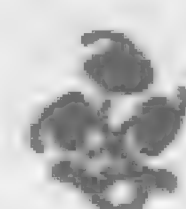
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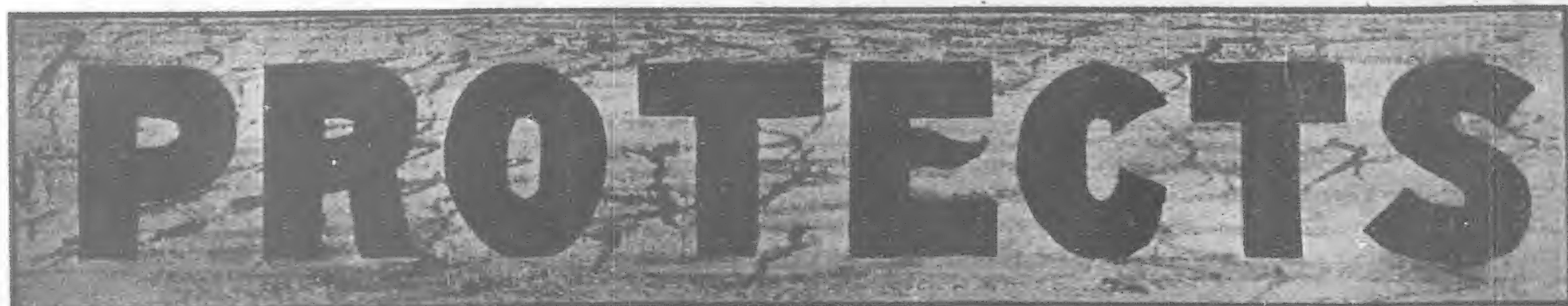


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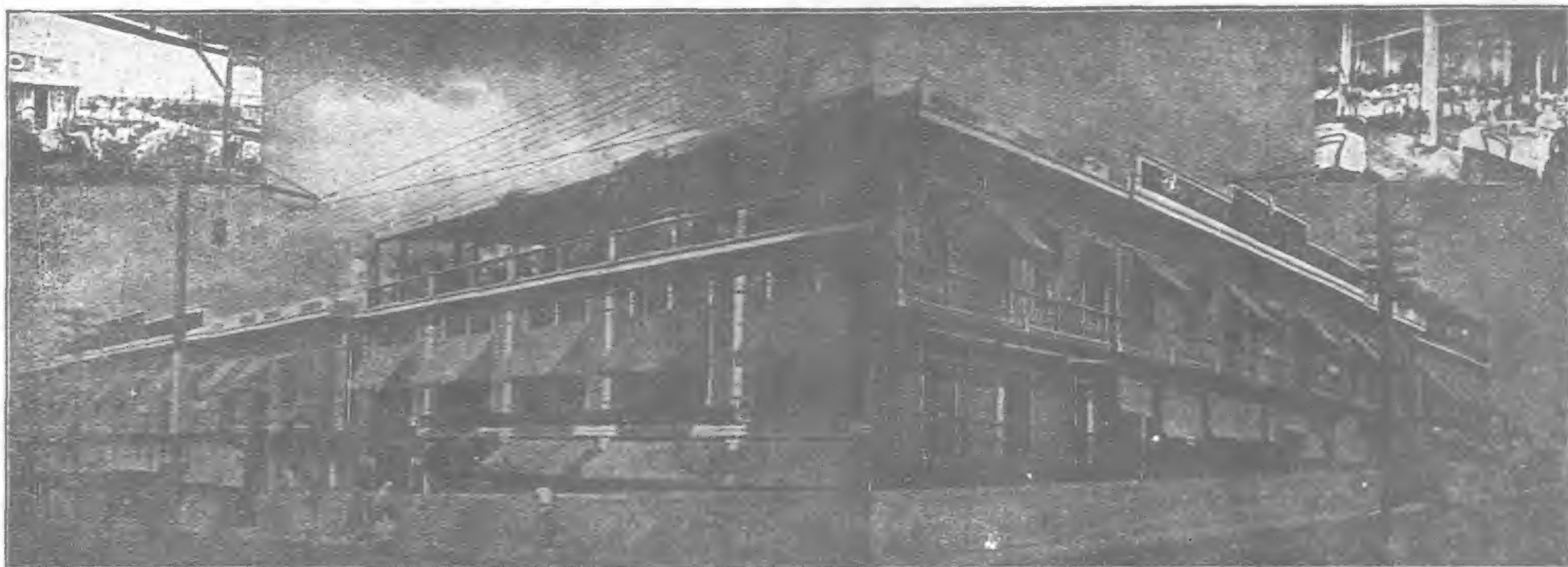
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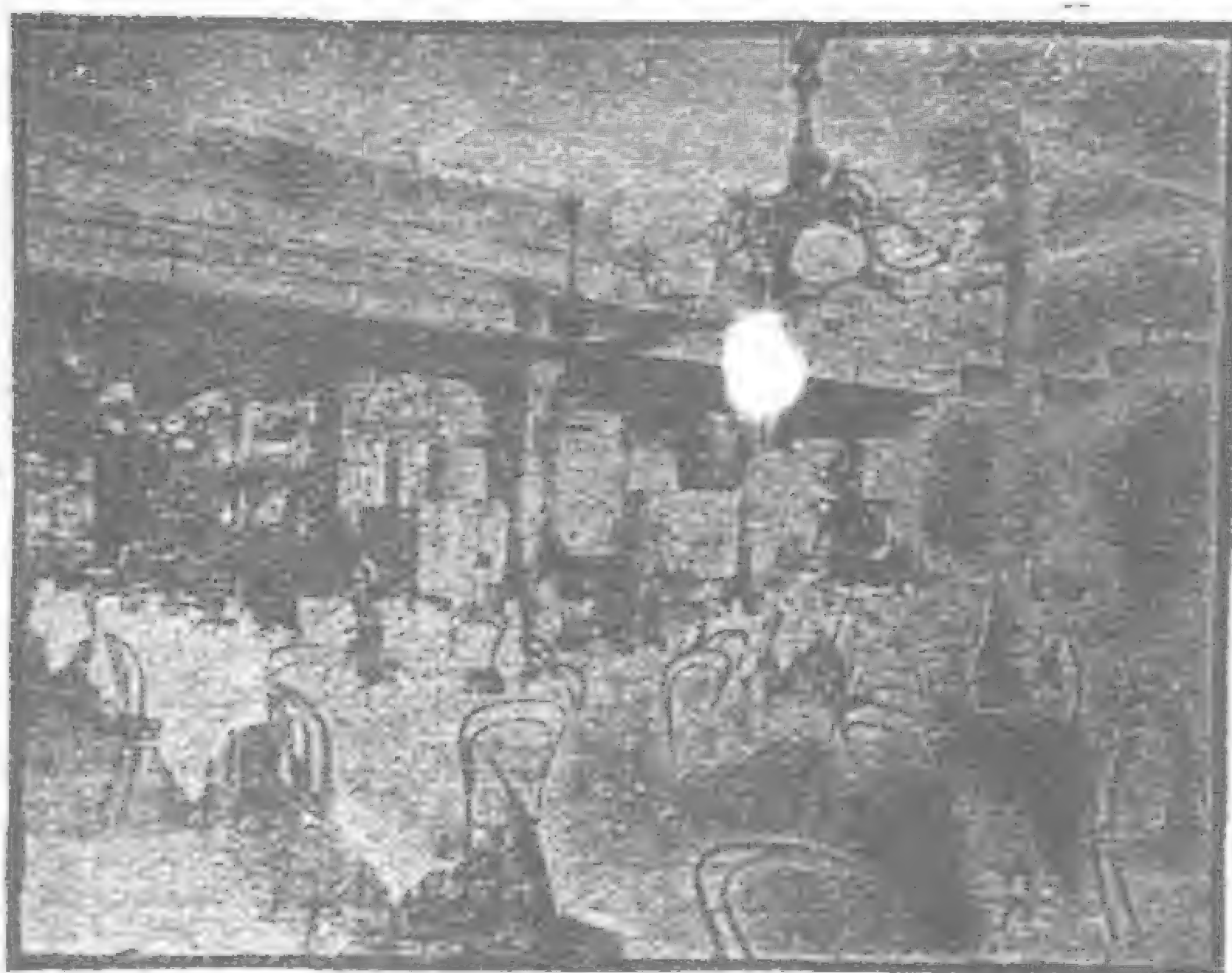
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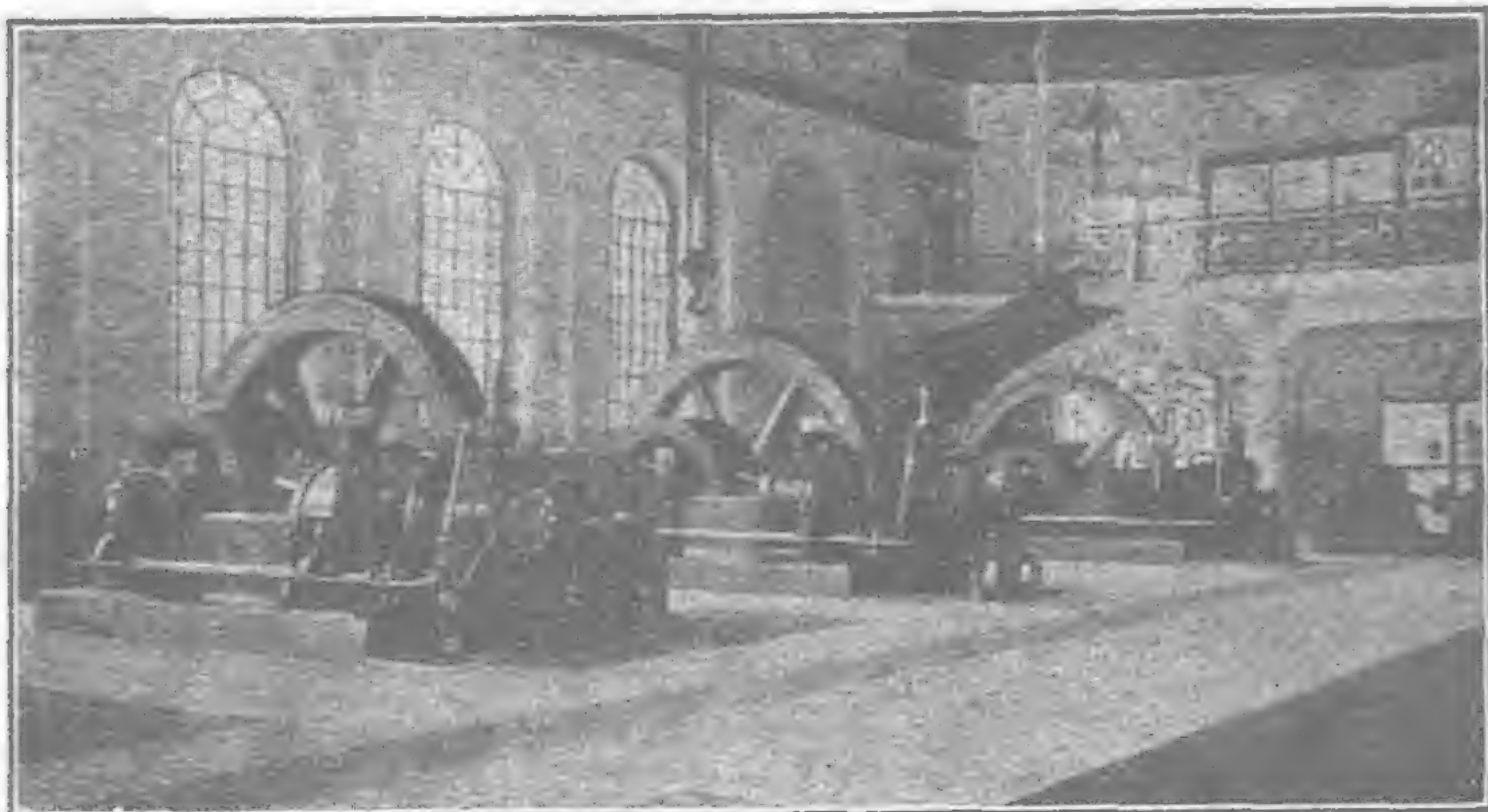
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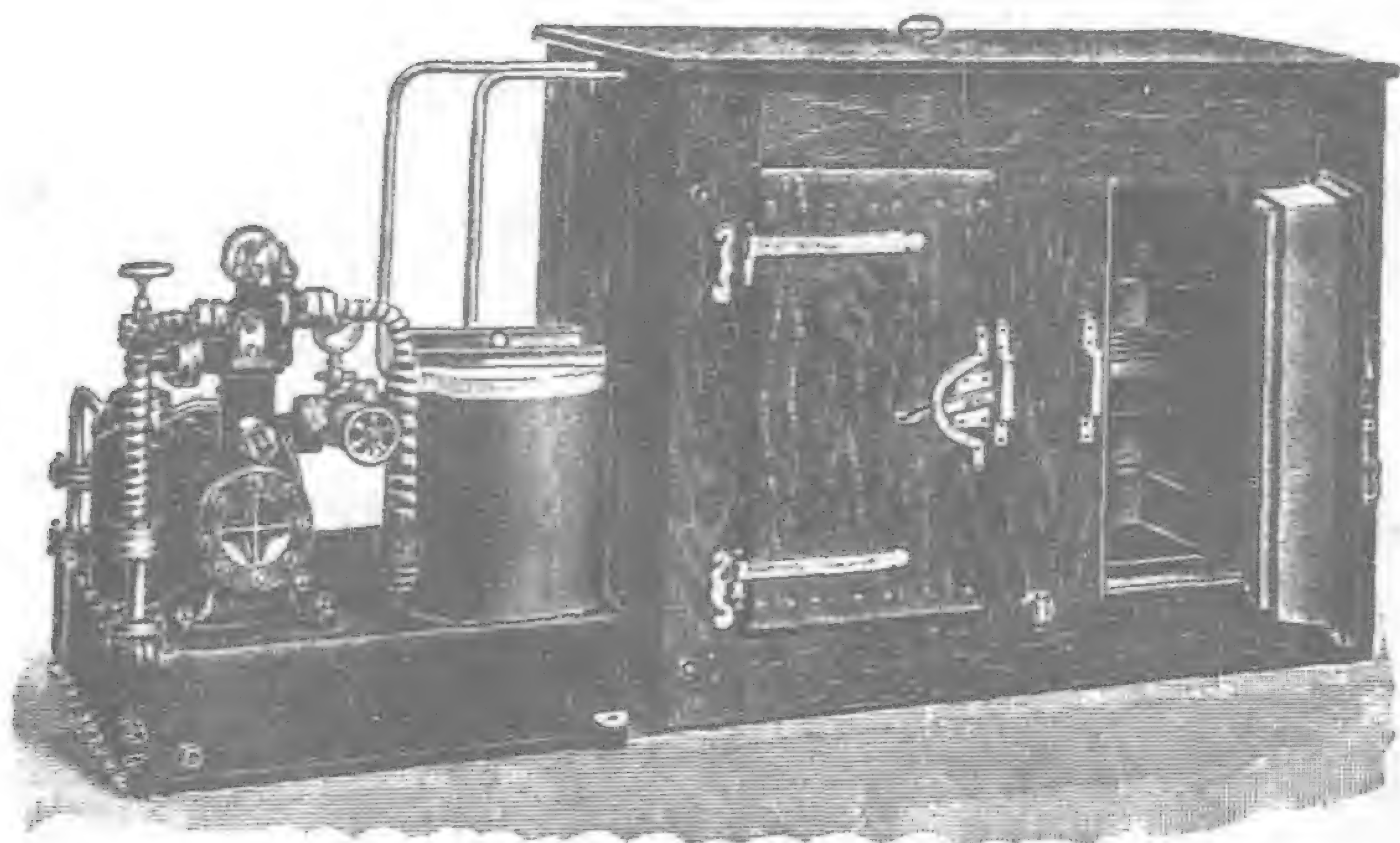
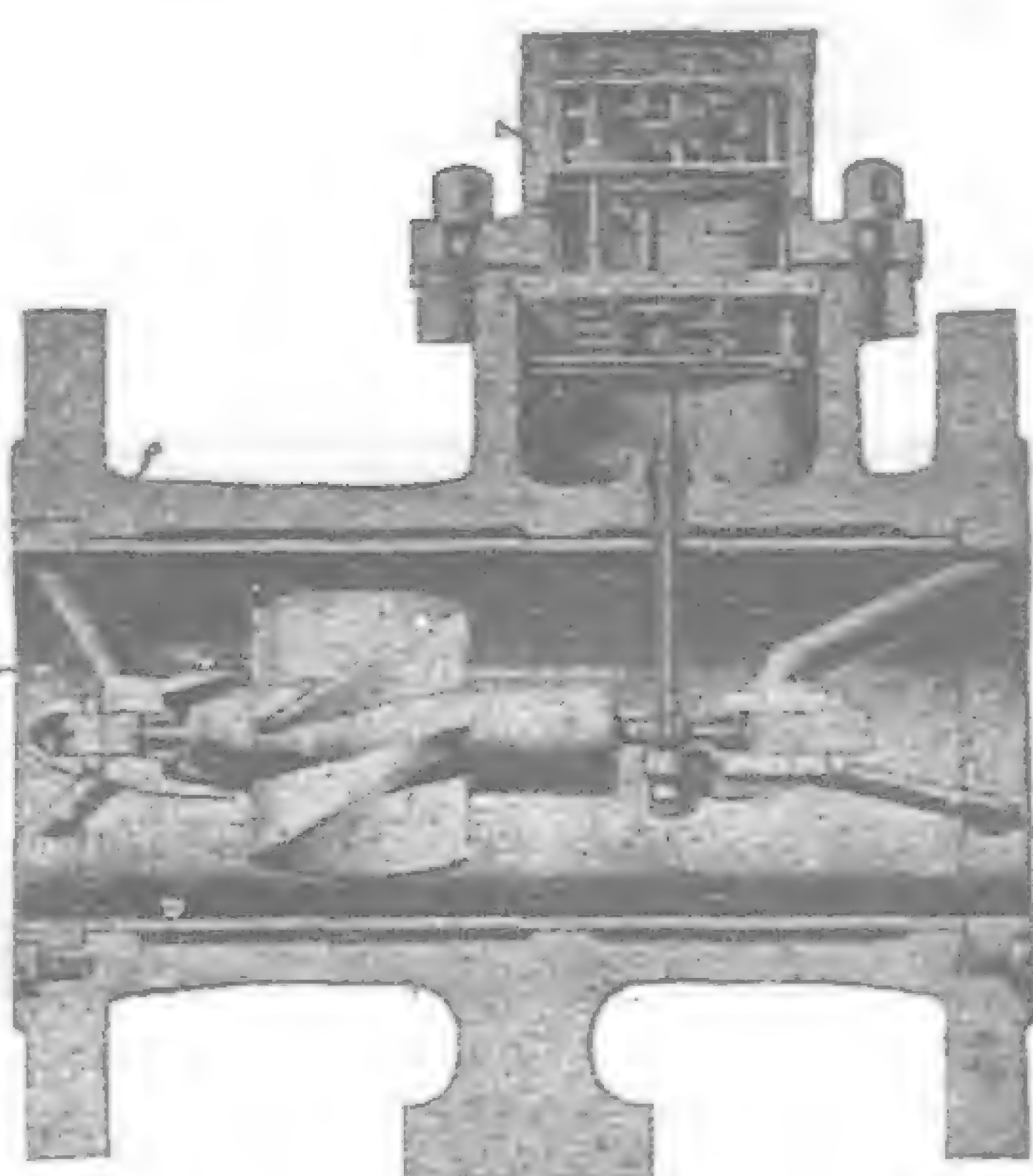
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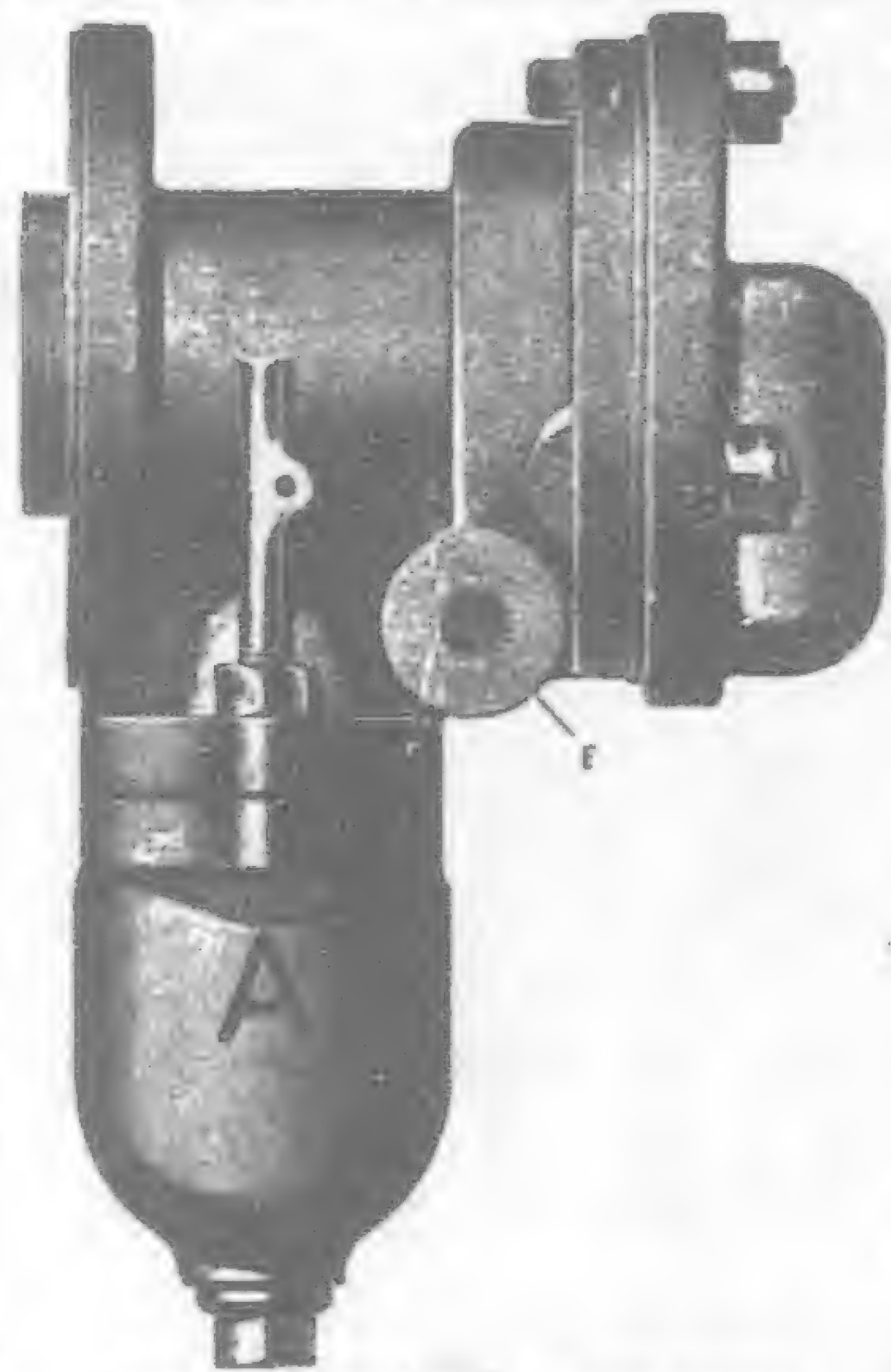
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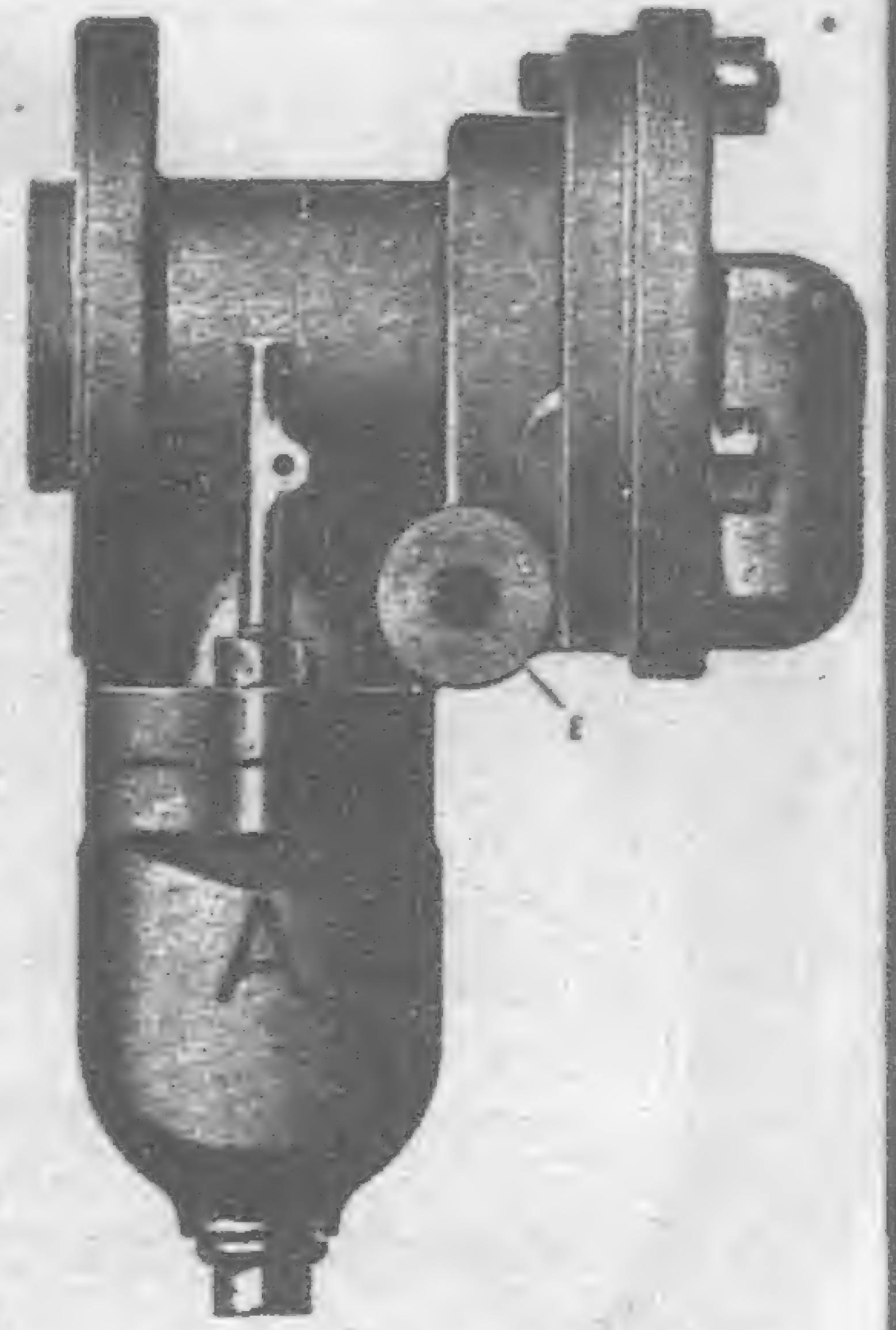
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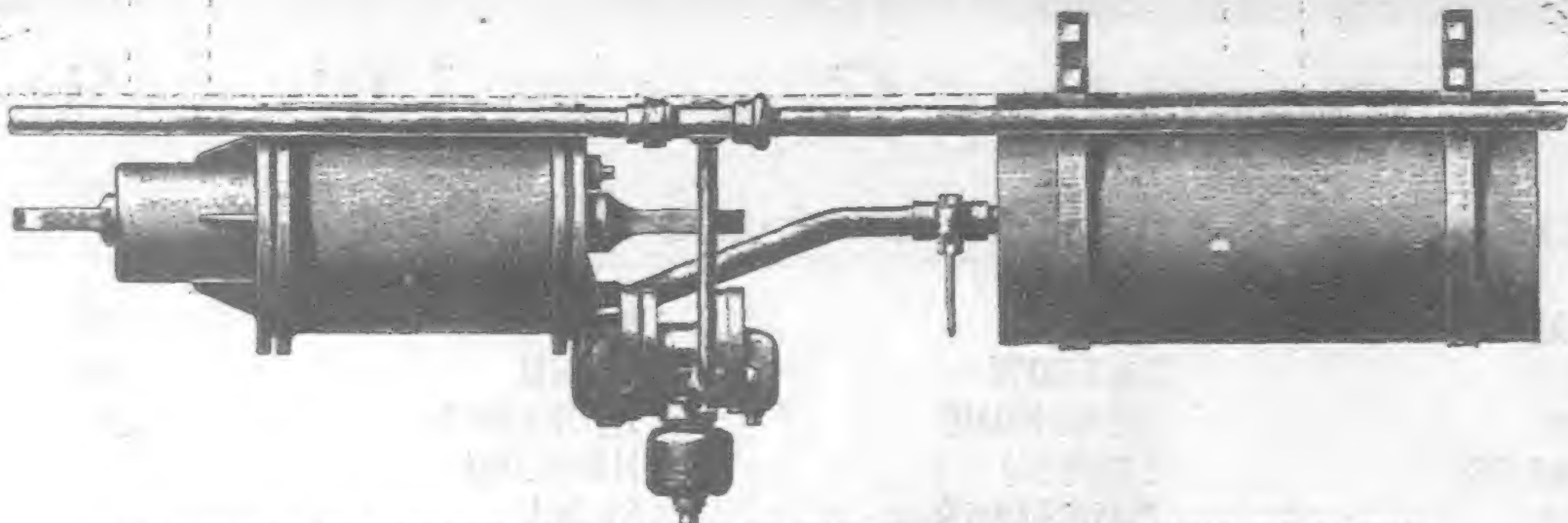
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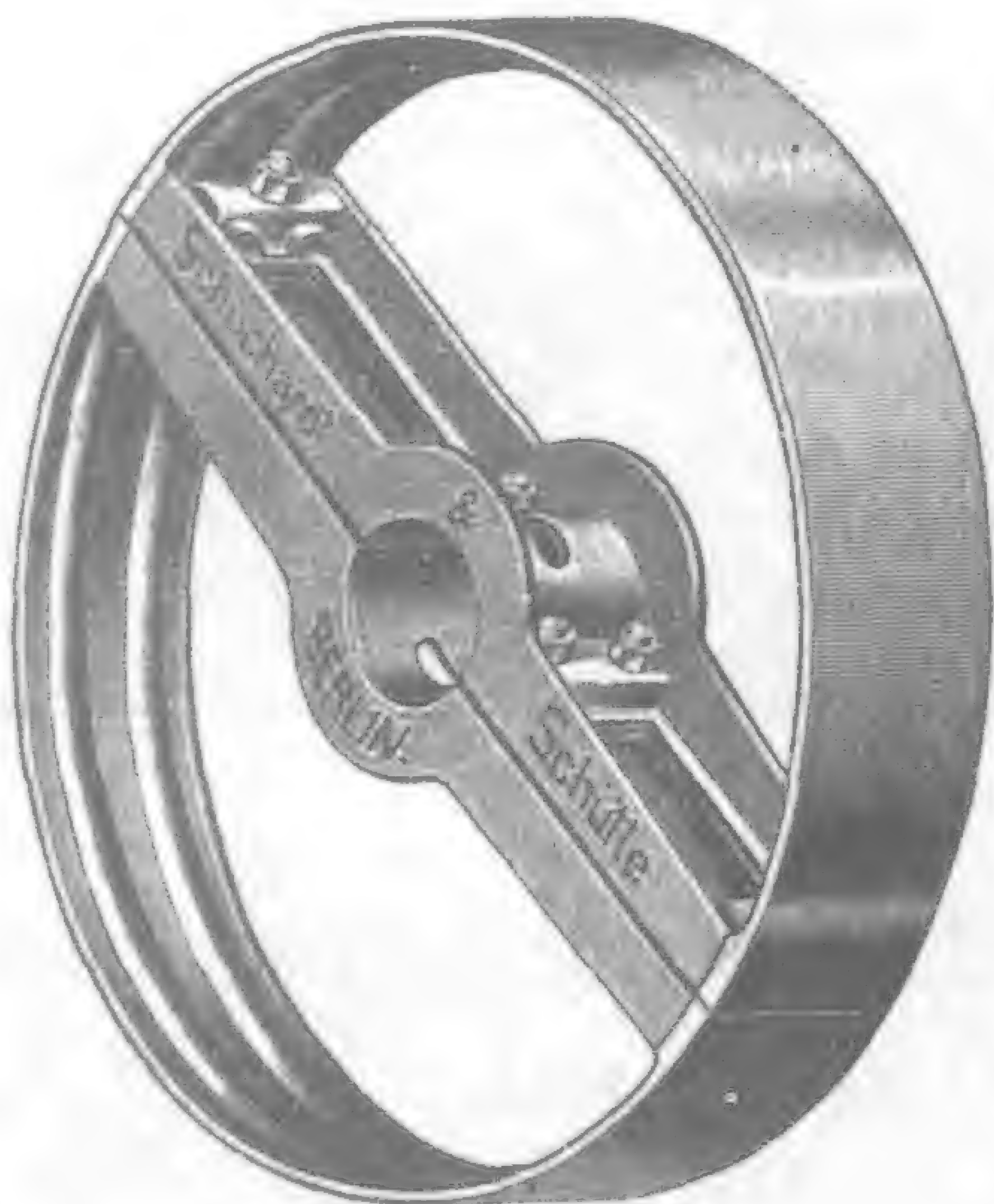
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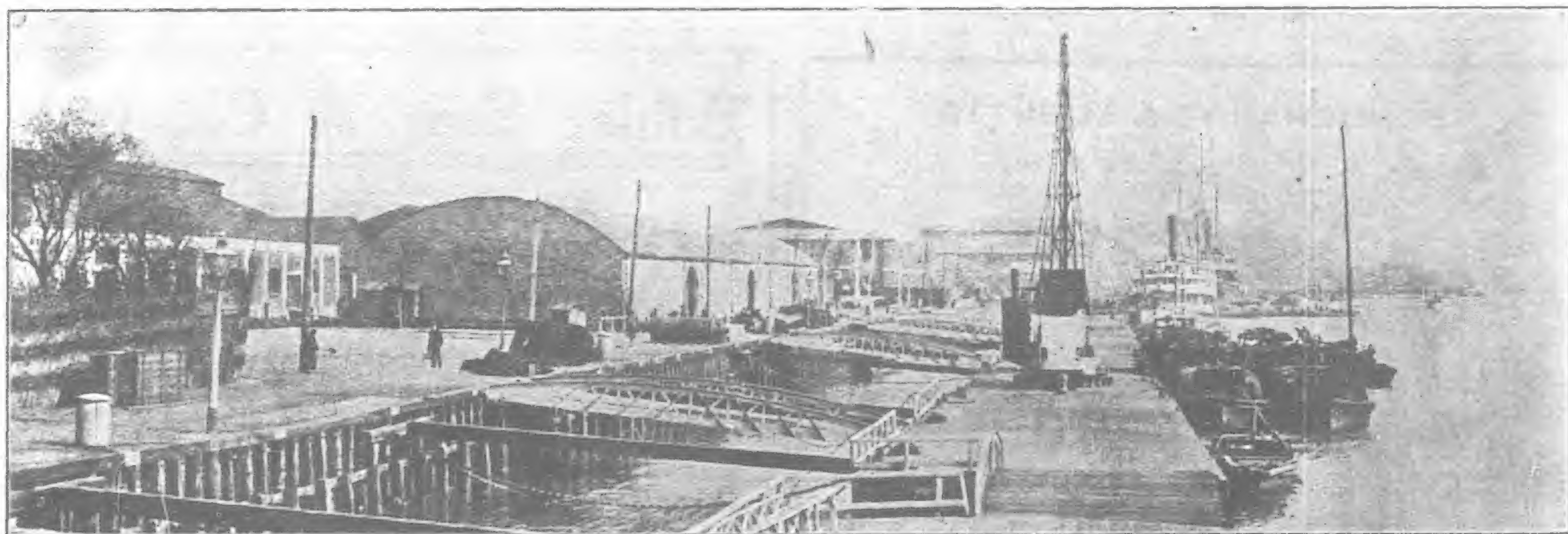
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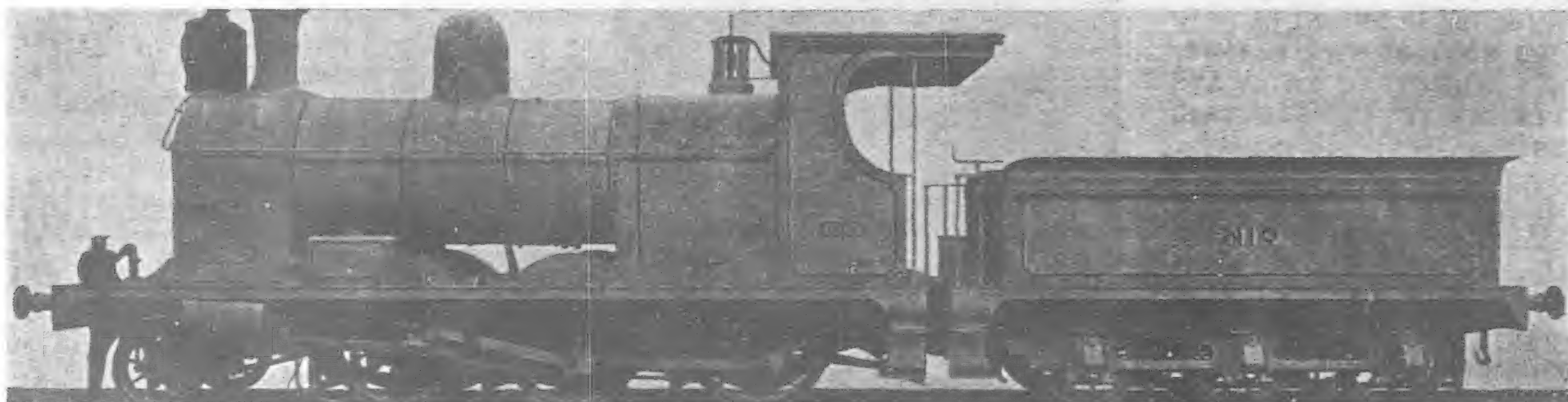


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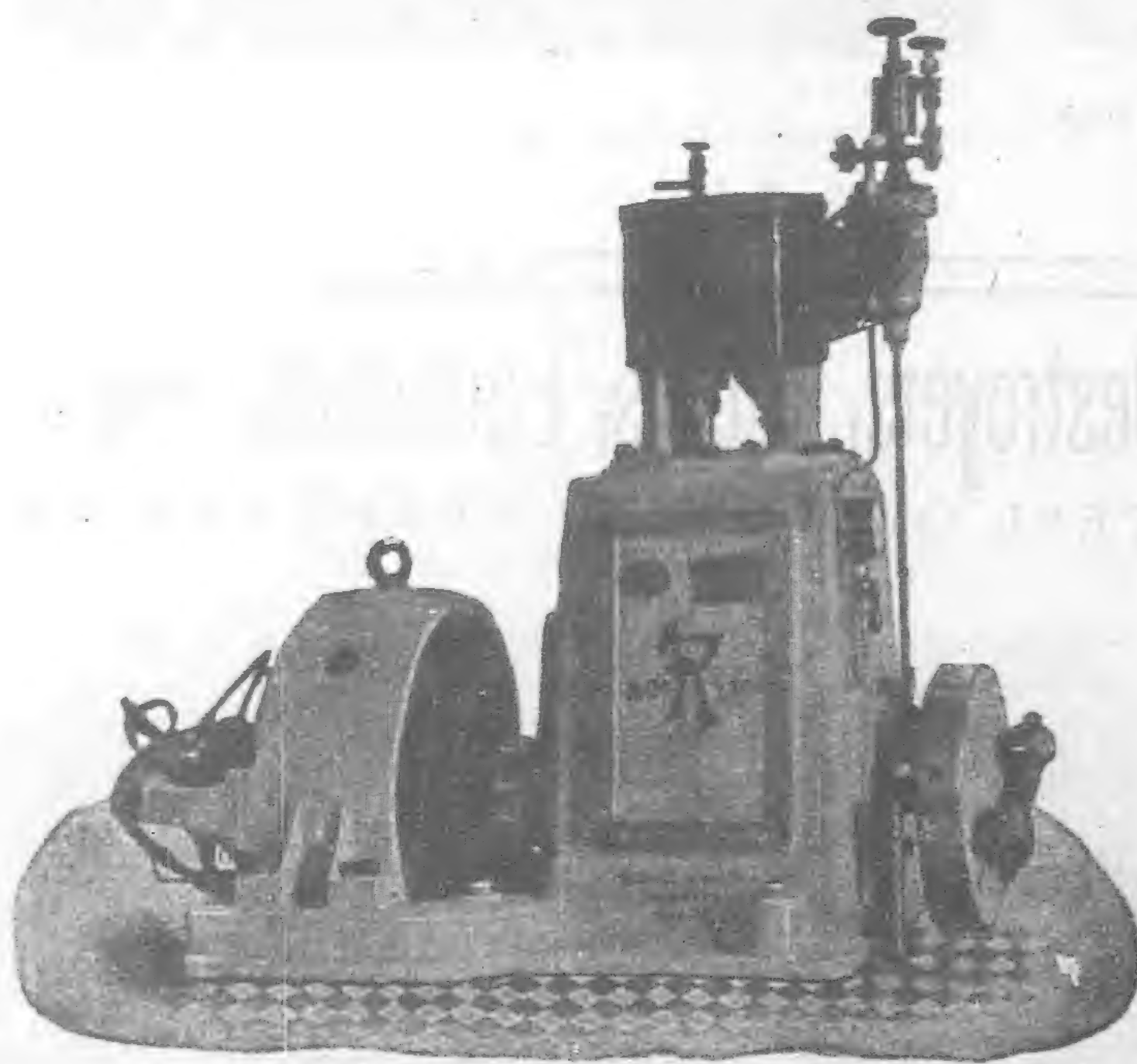
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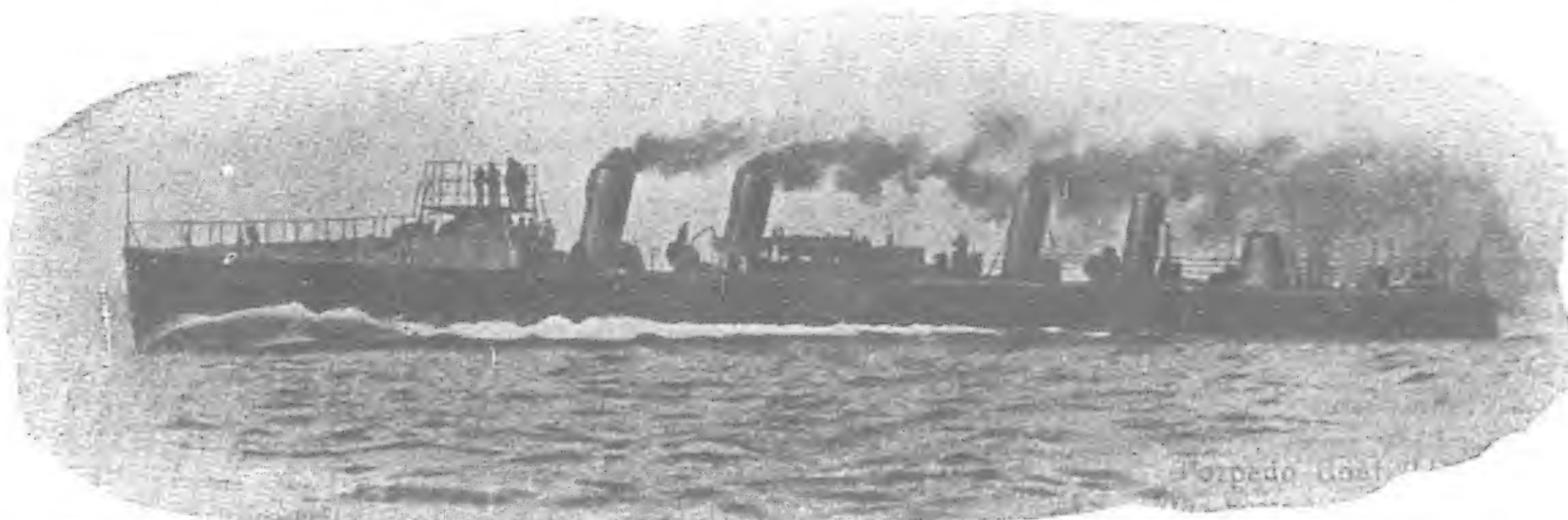
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SEALE, ALVIN. The Fishery Resources of the Philippine Islands.

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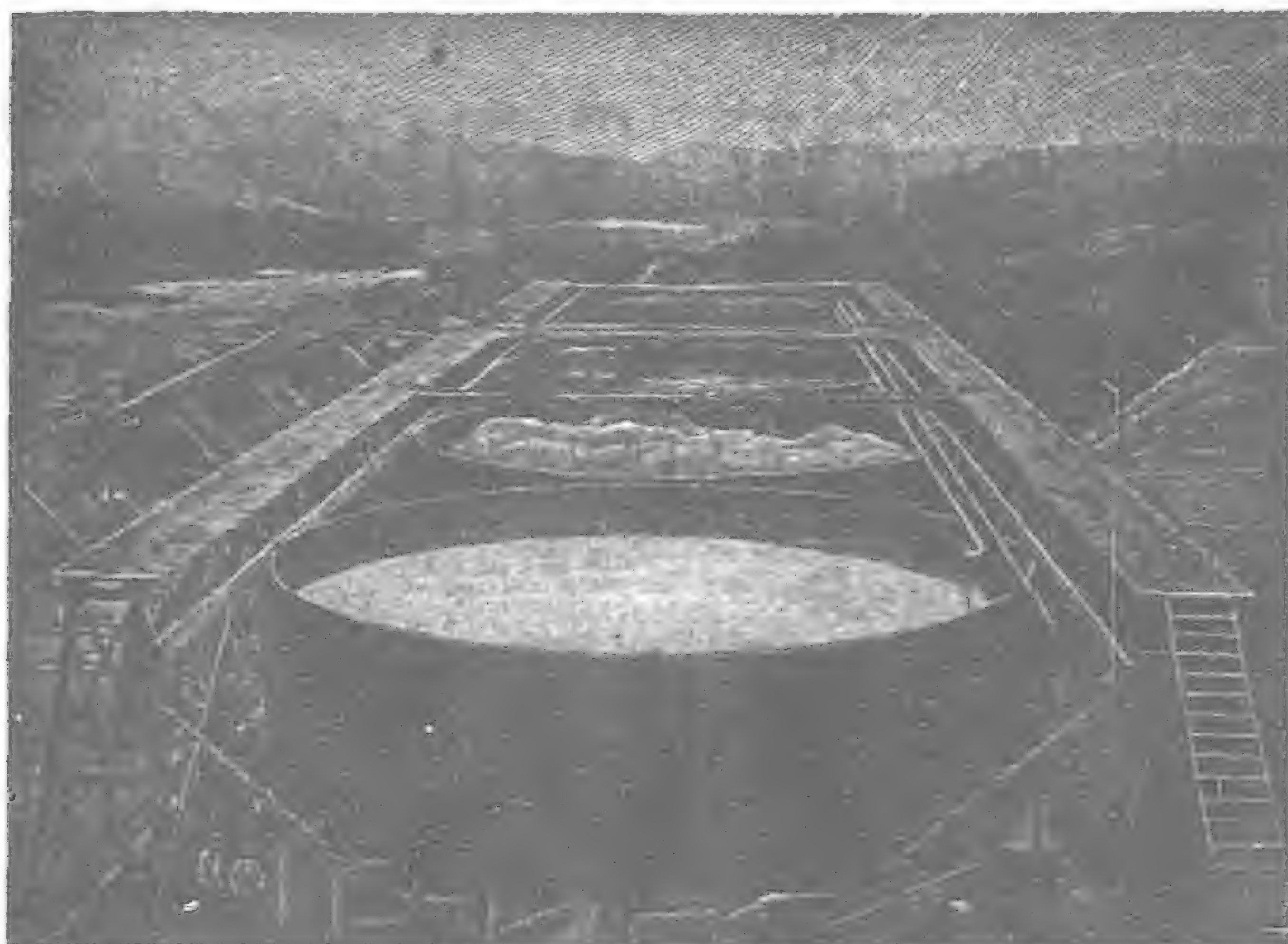
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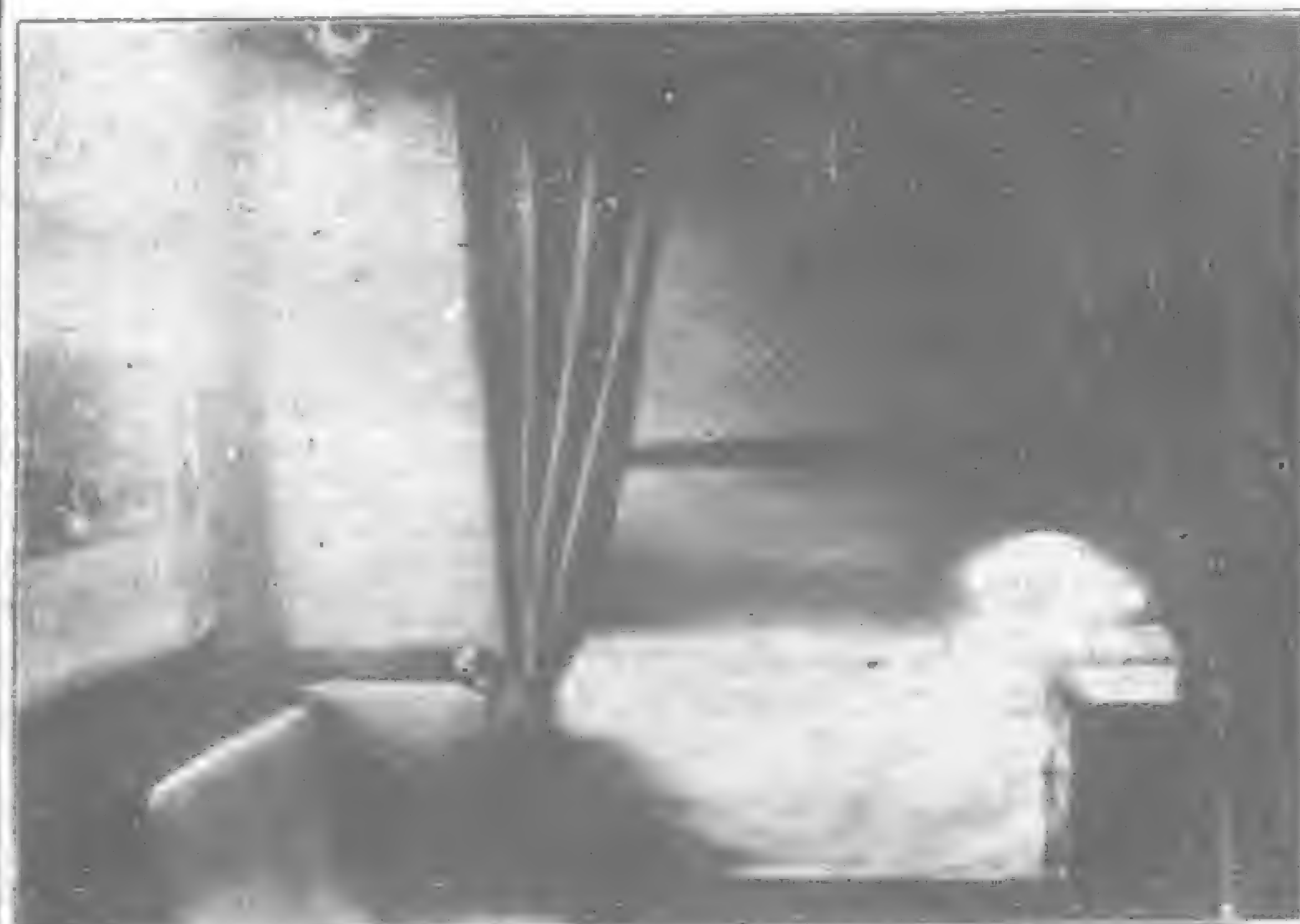
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No. 10.

DAYLIGHT IN MANCHURIA

China's Problem to Retain Possession of the Three Eastern Provinces

Shanghai, March 1st, 1910.—The Great Trans-Siberian line, the Highway of the Bear, stretching across the Asiatic continent from the Urals to the confines of Manchuria, was conceived by Russia as the basis of a great expansion scheme, and constructed from strategic and commercial motives. In its long path through the southern part of Siberia, it parallels the northern limits of Mongolia for over a thousand miles, at an average distance of 150 and at places as near as 100 miles. At several points large settlements and military outposts are established within a day's march of the Mongolian Border, and can be rapidly connected by rail with the main line at a small cost.

The trail of the Bear, through his own domains by the way of the Amur to the sea at Vladivostok, is a long, cold, and most expensive one, while a much shorter and economical route lies across the almost level plains of Northern Manchuria in Chinese territory. From the initiation of the great trans-continental scheme, Russia always had in mind, as her objective, the shorter route across the dominions of her neighbor, but to avert suspicion and criticism, she led the world to believe that her intentions were to follow the Amur. And so, following the far north-eastern boundary of China, she built the Ussuri branch of the Great Trans-Siberian Railway from Nikolsk to Habarovsk, and pushed her Trans-Baikal division up the Shilka Valley to Stetinsk. But when the opportune time came, she secured from China the right to construct and operate the convenient "cut off" through northern Manchuria known as the Chinese Eastern Railway, and later on the additional concession of an outlet to the sea at Port Arthur.

And then came the war, and with the Peace of Portsmouth, the way of the Bear was checked, and Russia deprived of the southern outlet, and debarred from employing her "cut off" for military or strategic purposes. This clause made it difficult for Russia to strengthen her position east of Baikal, and placed Vladivostok and the Maritime Provinces at the mercy of Japan in the event of future trouble. So it is not to be wondered at that hardly had the ink dried on the Peace document, then Russia began to devise ways and means to circumvent and nullify its provisions by constructing the Amur Railway through its own territory, to facilitate the transport of troops and munitions of war to her base at Vladivostok. And without any great opposition, the Duma authorized its construction at an enormous cost, and to-day the work is being pushed rapidly ahead, and at the same time the Trans-Siberian line is to be double tracked. Experience during the war demonstrated that the weakest link in the chain of communication was the ferry across Lake Baikal, especially in winter. And so the Circum-Baikal line has been constructed in the face of great engineering difficulties, and is now open to traffic.

The economic importance of these developments is far outweighed by the gravity of their strategic significance. And we learn that for purely commercial reasons a railway is to be built connecting Omsk with Barnaul and Semapalitinsk, both places within 150 miles of the Mongolian frontier, and through their outpost at Bish, within striking distance of the Chinese border capital of Kobdo.

The Russian Central-Asian and Trans-Caspian railway system terminates at Andijan within a hundred miles from the Chinese border of Sinkiang, and within an easy march of Kashgar, and her military post road skirts the frontier to Fort Vernoe, commanding the approach to the Chinese province of Ili, the gem of Central Asia, of which Kuldja is the capital. Here a Russian Consul, with a Cossack escort, a Russian post and telegraph office, holds extraterritorial sway over half the inhabitants who are Russian subjects, and the day the Great White Czar wills it, this morsel will drop into the capacious maw of the Bear, in spite of all opposition.

From the Central Asian terminus of Russia's military railway at Andijan, the project has been discussed of extending the line beyond to Kashgar, Aksu, and Hami, through the Pan Handle of Kansu, to Lanchow, and thus connecting with the proposed line from there to the East. This would give Russia another through Trans-Asian line, but the project is opposed by China. And so, for reasons which concern only her own interests, Russia has circled the Chinese frontier with strategic lines of communication. When she threw her great trunk line across the continent, built the Ussuri line at the eastern end, and pushed her iron road up to the doors of Kashgar, and as she is now girdling the Amur with a 300,000,000 rouble railway, and showing her locomotives up to Barnaul and Kiackhta, her every move was a direct menace to the Chinese Empire, from a political viewpoint.

To the south from her vantage point in Indo-China, France constructed her little meter gauge military line from Hanoi to the Kwangsi border, and pushed the Laokay Line into the heart of Yunnan. To the southwest, Great Britain, from her Burma stronghold, has followed up the great valley of the Irrawaddy, and her railways terminate within a few miles of the Yunnan border. Her explorers and engineers have surveyed and spared no pains or expense to seek an easy entrance into the rich Chinese province beyond, and so connect the Yangtze valley with India.

In Korea, Japan has quietly built her Fusan to Wiju line, contemplates the construction of a branch up the Yalu River valley, and with a bridge over this river connect her Korean railways with the line to Mukden in the heart of Manchuria.

Russia, France, Great Britain and Japan have carried out their respective railway policies within the confines of their own territories, exercising their recognized sovereign rights to conduct their own affairs without let or hindrance from their neighbors. When it suited their policy to construct a railway parallel to, or following the immediate boundary of China, or terminating at some strategic point, commanding one of China's back doors, China's wishes were never consulted. The roads were simply built, and it was no body's concern. As these foreign roads did not cross or enter Chinese territory, the entire Empire could be encircled and hedged in by the semi-strategic railways of adjoining powers, without China having the right to protest. Fair play demands that China should also be permitted to exercise similar rights within her own territory. But at this late day, China has evinced the desire to construct a railway within her own confines, linking the

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Imperial capital with her far northern frontiers, and to this end has contracted with a foreign financial syndicate to furnish the required funds. But the same Powers, who ignored China's desires when their own interests were at stake, now rise up in their wrath at her presumption in daring to build such a line without consulting with and securing their permission.

Stripped of all superfluous verbiage, this interference or protest is an application of the Right of Might to dictate to China what she shall do in her own house. And despite all diplomatic assurances of fealty to the Open Door, and recognition of China's integrity, the attitude of the Powers towards the attempt on the part of China to construct the Chinchow-Aigun Railway reveals their true attitude and the hollowness of professed doctrines when special interests are even remotely threatened. From now on the pretence of respecting China's sovereignty may as well be practically abandoned for the principle has received a rude shock from its professed steadfast supporters.

It is not difficult to analyze the situation and understand the motives prompting the different Powers to reveal their true policy towards China. Those who run may read, and it does require a close student of affairs to realize that forces are at work, which, unless checked in the near future, will again convert Manchuria into the Cockpit of the Orient, and that these forces largely emanate from the operation of Russia's policy since the last war. For the Way of the Bear was only temporarily checked by the Peace of Portsmouth. In another few months, victory would have perched on the standards of Russia, and Manchuria and Korea added to the dominion of the Great White Czar. And almost immediately after the signing of the Treaty of Portsmouth, the initial steps were taken to retrieve the lost position. Cloaked under economic necessity, the Siberian country to the east of Baikal has been rapidly colonized. Hundreds of thousands of settlers have found new homes in these regions, thanks to the beneficent policy of the Russian Government, which furnishes transportation and land, and in some cases capital to the settlers. Where five years ago the Russian army had to be recruited and supplied from European Russia, the new movement will enable an army to be raised in the East in case of an emergency. Food supplies and horses will also be found close to the scene of operations in the event of future war. The army of the Trans-Baikal, Priamur, and Maritime Provinces is not short of 300,000 men, on a war basis. The fortress of Vladivostok has been made impregnable. The Circum-Baikal Railway has been completed, and the double tracking of the Trans-Siberian Railway, and the building of the Amur line is well under way.

In fact Russia has openly carried on her plans to strengthen her position in the East and has made remarkable strides. St. Petersburg says that it is all a part of a great development scheme, based on sound economic principles, but the Russian newspapers and unofficial public opinion frankly admit the strategic character of the movement.

And on the other hand Japan is similarly engaged in strengthening her position against her old enemy. Russia threw down the gage last May when the Duma authorized the construction of the Amur Railway. Whatever friendly motives may actuate Japan in her dealings with China, they must perforce be secondary to vital questions affecting her own existence, and so Japan's answer to Russia was at the expense of China by forcing through the reconstruction of the Antung-Mukden line and wringing from her the concession for the Kirin-Hunchun Railway. Both lines were imperative to preserve Japan's position in Korea, and behind it all there still remains the same old issue, which forced Japan to take up arms against Russia. For in case of future hostilities, and in the possibility of Russia's victory, Japan will again be struggling for her national existence. Defeat means the loss of her position in Manchuria, evacuation of Korea, and Russia domiciled across the Straits of Fusan threatening her Island stronghold. It is the old story again of Russia and Japan on a grander scale than before, and the forces now at work embody momentous issues.

In the face of such a situation, the same motives underlying the alliance between Great Britain and Japan must still prevail. British policy in Asia has one cardinal feature before which all issues are secondary. Without India, the British Empire could not exist. "To preserve India free from danger,

therefore, and not only India, but our line of communications with India, Australia and the Far East, it is necessary that those countries which border on India and impinge upon such communications should remain in the hands of friendly or at any rate of innocuous peoples and be kept free from the control of a strong and possible—probably—hostile Power." And the one Power feared by Great Britain in India is and always will be the same, Russia. And whatever will cripple Russia and divert her attention from India, must take pre-eminence over all other issues in Asia. Japan and Great Britain were drawn together in the bonds of the alliance, through their mutual distrust of Russia. As long as Russia's energy and attention is diverted to the Far East, India is safe. Russian victory over Japan, and the absorption of Manchuria, would leave her free to move towards India, and therefore whatever might weaken Japan's position in the East, and strengthen that of the common enemy, must meet with the disapproval of Great Britain, even though in so doing, other interests are sacrificed. And in this lies the secret of Great Britain's somewhat inexplicable attitude in advising China to consult the wishes of Russia and Japan in the proposed Chinchow-Aigun Railway scheme.

It is true that Great Britain and Russia have arrived at an understanding concerning Central Asia, which temporarily relieves the former from the fear of Russian advance into Afghanistan, and recent events tend to prove that Great Britain is straddling several kinds of fences in her effort to maintain her compromises with Russia, and at the same time uphold her alliance with Japan, and appear friendly with America, and preserve her face with China.

The time is past for equivocation, and it is well to look the situation square in the face. The forces in Manchuria are lining up for another contest. Russia seems bent on regaining her lost ground, and Japan is feverishly preparing for the shock, but at the same time praying to her eight million gods that the conflict may be averted. Japan realizes too well what the result of the next war with Russia will be, and while they are willing to again face the issue, they are determined to exhaust every diplomatic means to ward off the evil day, even to entering into an agreement with the old enemy to preserve what they have got. It is sheer folly to suppose that Japan is thirsting after the bleak and unproductive Maritime Provinces of Siberia, and in case of a conflict with Russia, her objective would not be the storming of the impregnable fortress at Vladivostok, but the cutting of the Russian line of communication somewhere in Manchuria. The war must again be fought on Chinese territory, and there is no good reason why this should be, unless the possession of that territory is the object aimed for as a result of the struggle. There is no pretense about the Russian policy in Manchuria, their object is not to make the territory an open bazaar for all nations, although all nations would have a fair chance to furnish Russia with her requirements. But there has been a confident belief that Japan was playing the game and living up to her oft repeated assurances of fealty to the Open Door and respect for China's integrity.

It is somewhat disconcerting, therefore, to find the *Japan Daily Mail*, the official organ of the Empire, giving voice to the following sentiments:

"With all respect we are bound to say that judged by any of the recognized canons of sovereign rights, Manchuria has not been under China's effective rule ever since the Boxer riots. So mythical was her sway that she allowed the armies of two foreign powers to wage a colossal war on her territory for the avowed purpose of determining whether or not one of the two should terminate its military evacuation of that same territory. No other than the 'reality of surrender' can be honestly found for China's attitude throughout the Russo-Japanese struggle, and unquestionably it is at present a mere euphemism to allege that China is the effective sovereign of Manchuria; whatever diplomatic gilding the pill may carry, there is no mistake about the drug composing it."

And again we read in *Harper's Weekly* a frank confession from the pen of Mr. Adachi Kinnosuke. While disclaiming any official connection with the government, he expects nevertheless to receive a reprimand for his frankness. Mr. Kinnosuke tells us very truthfully and frankly that the South Manchuria Railway is the outer line of Japan's Imperial defences against the day when China may not be content to let bygones

be bygones, and in that event it is better to receive the shock on the borders of China's Metropolitan province as far away from Japan as possible, and by the same token, Changchun will be the meeting places of the armies of the Czar and the Mikado when the inevitable occurs. In summing up a long defence of Japan's policy, he concludes, "With all that, one thing can never be gainsaid: *Japan is the rightful owner of Southern Manchuria.*"

And by the same logic, Russia is the rightful owner of Northern Manchuria. And here despite the strenuous efforts of diplomacy to conceal real intentions, we find inspired Japanese publicists flatly contradicting the government.

There was only one way to neutralize Manchuria, and Mr. Knox, the American Secretary of State, pointed it out. Russia and Japan emphatically responded in the negative. China's hope of preserving her neutrality in the event of the struggle between Russia and Japan was denied her, and as an alternative came the proposition to construct the Chinchow-Aigun line. While legitimate commercial motives may be advanced on the part of China, to do as she wills in her own territory, these are overshadowed by the urgent strategical necessity of the proposed railway. Her only hope now of preserving intact her territory lies in the construction of the line, and she turned to American and British capitalists for help. This was readily forthcoming. American financiers stood readily to furnish the funds, while a British company was to construct the line. But the same powers, who have girdled her domain with purely strategic roads, deny her the privilege of free action in her own territory. Japan, while protesting, intimated that if the line was connected with the South Manchuria Railway, there would be no objections.

To Russia the line from Chinchow to Tsitsihar was not a particular menace, for it is evident that, when the time comes, such a line would quickly fall into her possession, and permit her to flank the entire Japanese position, hence her willingness and Japan's objection unless the latter could build a connecting link, which would enable her to throw her troops rapidly into the breach, and check a Russian advance in that direction. But Russia did object to the Tsitsihar-Aigun Line, as that would strike right at the heart of her Amur region and permit the cutting of the Amur line to the East.

And in face of both protests China turned to Great Britain for counsel, inasmuch as British interests were to construct the line. But far above her own commercial considerations and friendship for China, Great Britain placed her understanding with Russia, and her alliance with Japan, and the reply to China was that Japan and Russia must be consulted before she could lend her approval. And the world has been informed of Russia's and Japan's attitude, and Great Britain by this act approves of their policy.

Russia now suggests that the entire scheme be abandoned, and instead she will give her permission and provide the funds for construction of the Kiackta-Urga-Kalgan Line, thus seizing the opportunity of reverting to her old cherished dream of an easy approach to Peking.

The situation is disconcerting. American diplomacy has let in the rays of the sun on the night of uncertainty. The *London Times* characterized Mr. Knox's scheme as one of "Grandiose Simplicity" and the leading British organ of the Orient, the *North China Daily News*, tells its readers that his circular note was a "diplomatic blunder." Yes, it must be admitted that it was Grandiose Simplicity on the part of Mr. Knox to be misled by the solemn utterances of friendly powers, and was undoubtedly a diplomatic blunder for America to admit her innocent gullibility in the face of repeated assurances of good faith. And American opinion has some justification for complaint, while to her side is drawn the isolated figure of Germany, who has yet to have her say. The lining up of the powers on the Manchuria question reveals an alarming situation, one which should well give pause and a searching of national policies, before old traditions are overthrown, and the breach widens into an impassable gulf.

The veil has been torn away, and the hollowness of the many pretences of recognizing China's sovereignty has been laid bare.

Daylight has come in Manchuria and the rays of the sun shine pitilessly on the scene and the picture is not good or pleasant to dwell upon.



THE HON. NEWTON W. GILBERT

VICE-GOVERNOR OF THE PHILIPPINE ISLANDS AND SECRETARY OF PUBLIC INSTRUCTION



THE HON. CHARLES BURKE ELLIOTT

SECRETARY OF COMMERCE AND POLICE, PHILIPPINE ISLANDS

DEPARTMENT OF PUBLIC INSTRUCTION OF THE PHILIPPINE ISLANDS

The Eighth Annual Report of this department, of which the Hon. Newton W. Gilbert, Vice-Governor of the Philippines, is the head, shows that the appropriation for the year amounted to P3,275,000 for the expenses of the Bureau of Education and P160,000 for the Philippine Medical School. Besides this amount there were set aside from the permanent improvement fund the sums of P189,000 for Normal School buildings in the city of Manila and P100,000 for the assistance of municipal school building construction. The number of children enrolled in the primary grades throughout the islands numbered 570,502 and the maximum attendance was 437,735.

THE BUREAU OF SUPPLY.—Under this head the report shows that the total of sales for the year ended June 30th, 1909, amounted to P6,002,615.14; the local purchases, P3,649,478.58 and the purchases of the bureau from the United States and foreign countries, P1,965,845.24. The Division of Cold Storage of this bureau reports net earning of P355,759.57.

BUREAU OF PRISONS.—The total number of prisoners in the provincial and insular prisons numbered 6,121 of which 4,611 were insular and the balance distributed among the 39 provincial jails. The average cost of maintenance of prisoners per capita was P157.86 per annum or P0.433 per diem. A new hospital was completed at Bilibid during the year. Of the 2783 prisoners serving sentence in Bilibid, 1172 are employed in the Industrial Division in the various con-

struction shops. The production for the year amounted to P426,736.89 and the expense of operation, P378,128.23, making a net profit of P50,608.66. Of the total work turned out, P365,000 in value worth was for Government use. In addition to this profit, P92,243.61 were realized for prison labor. The Iwahig Penal Colony, where 712 convicts are being encouraged in the pursuit of agriculture is progressing favorably. Vice-Governor Gilbert directs attention to the lack of provision for the proper care of juvenile offenders and recommends a separate institution or reformatory.

BUREAU OF PRINTING.—The receipts from all sources for the year amounted to P525,143.91, to which is added the balance of P149,504, forward from former year. The disbursements amounted to P468,570.11, leaving an available balance of P206,078.56.

BUILDING CONTRACTS IN CHINA

HOW ORDERS ARE PLACED AND SUPPLIES FURNISHED

In answer to an inquiry the Chargé d' Affaires at Peking furnishes the following information concerning the letting of contracts and the furnishing of supplies to contractors for the Chinese Government, which applies fully to North China and, to a great degree, to building construction throughout the Empire:

The Chinese Government has no rules, printed or otherwise, for letting contracts or buying materials. The man on the spot with the lowest price and quickest delivery

gets the work. Ninety per cent of all the building done in China is done by Chinese contractors. When foreign material is specified, such as heating plants, plumbing, electric-light plants, light fixtures, constructional steel, etc., tenders for these materials, either delivered on the ground or put in place, are asked for from the many foreign firms in Tientsin or Shanghai. These firms hold agencies for the materials required and all arrangements are made with them.

Neither the native engineer nor the foreign contractor deal directly with the home houses, as it saves much trouble to deal with large houses well established in China. Their prices include freights, duties, and the numberless other small items, and a price is quoted which lands the goods where wanted, and, if desired, puts them in place. The contractor has nothing to do beyond paying the foreign firm in China and making sure that he gets what he ordered.

Unless connections are made with a well-established firm or a permanent agency for a special line of goods created, there is no chance of introducing foreign goods into China. As all the large firms have their own expert engineers, the contractor can have fair prices quoted at short notice on anything. All these firms make it their business to be very much in touch with all proposed work, both government and private. The terms usually offered by the Government are one-third on arrival of papers of shipment, one-third on delivery, and one-third on acceptance. These government terms varied considerably during the last year; in order to help the foreign firms, as money was tight and exchange bad, the Government paid on several occasions one-half on signature of contract and one-half on completion of work.

BEANS:

The Solution of the Commercial Situation in Manchuria

By GEO. BRONSON REA

Shanghai, March 1, 1910.—Neutralization of the Manchurian Railways and the construction of the Chinchow-Tsitsihar-Aigun Line are the latest moves in the prolonged diplomatic campaign to nullify Russian and Japanese preponderance in the Three Eastern Provinces. Since

ing to advance Japanese interests to the detriment of the foreigner. In fact, if any change in the code of questionable commercial tactics has been overlooked, we fail to remember it. These accusations soon found echo in resolutions of Boards of Trade and Consular Reports, and

the market to the extent of \$2,000,000, showing that in this brief space of time Japan has been able to secure some two-thirds of the cotton supply of the country. And what is true of American cotton is fast becoming true of British cotton yarns.

"Now, by what means has this change in favour of Japan been so expeditiously accomplished? No one familiar with affairs in the Far East will be surprised



UPPER END OF WHARF AT DAIREN

the termination of the late war foreign opinion has accepted the theory that unfair tactics and discrimination are the foundation of Japan's commercial success in Manchuria. The average European has refused to believe Japan could secure control of the Manchurian trade, unless underhand methods were employed, and, as a result, trifling commercial incidents have been unduly magnified and complaints to their consular and commercial bodies from Europeans based thereon have rapidly followed each other. Insinuations and accusations have poured in from foreign merchants against the operation of methods employed to secure control of the market. But despite the bitter criticisms, Japanese trade has steadily advanced and their goods have displaced the old familiar "chops." Within two years after the termination of hostilities, Japan controlled the commercial situation, and unsuccessful foreign merchants have charged discrimination and unfair methods to account for her success. At the root of the trouble was the South Manchuria Railway, and on its operation and administration fell the burden of censure. It was accused of car discrimination, secret rebates to favored Japanese firms, incivility and harshness to the traveller, espionage of their movements, discrimination against Newchwang in favor of its own terminal at Dairen, flooding Manchuria with Japanese products through the commissary stores of the army and railway, on which no duties were levied, smuggling across the border, juggling the exchange through the Yokohama Specie Bank, and so on through a long list of similar practices, all tend-

the press commented freely on them to Japan's disadvantage. American cotton goods, which formerly controlled the Manchurian market owing to their peculiar adaptation to the requirements of the trade, were displaced by the cheaper and lighter fabrics of Japanese make. Ergo, the wily Nipponese could not possibly be playing the game according to Hoyle. Before the war, the demand for American cotton goods in Manchuria alone reached an extent of \$3,000,000 gold annually, or a practical control of the entire market. In a short time after the war, the situation was reversed, and Japan supplied \$2,000,000 of the demand. As an American writer recently explained:

"There is no question of the existence of the so-called Open Door: but there is a grave question as to whether after passing through the door the alien intruder is able, under present conditions, successfully to compete with the doorkeeper." And then the writer repeats all the stock explanations of the foreigner to account for the situation, but submits no evidence that the Open Door doctrine is violated. As this argument is typical of all others in presenting the foreign side, we extract the following:

"Before the Russo-Japanese War the demand for American cotton [yarn] in Manchuria reached an extent of \$3,000,000 annually. In fact, the entire demand was supplied by the United States. Since the conclusion of the war this demand has been reversed in favour of Japan. Japanese cotton has largely taken possession of the market in Northern Manchuria and bids fair to make similar conquests in the South. In five years, out of a total of \$3,000,000 worth of cotton supplied by the United States, Japan alone now supplies

to be told that the achievement is mainly the result of the paternal care and financial assistance of the Japanese Government itself. Japanese traders and manufacturers as a rule are poor, but with the help of their few big export corporations and the backing of the Imperial Government they become a force with which the foreigner cannot easily reckon. The Japanese Government advances all the necessary funds for facilitating shipments of native cotton manufacture, and in every possible manner encourages the expansion of its trade in China. The Government borrows this money abroad at 5½ per cent. interest, including bank commission, and then lends the money to the cotton shippers at the low rate of 2 per cent, to enable them to control the market in cotton fabrics. Thus by a lower rate of interest than the foreigner can possibly command and also by special railway rates the Japanese cotton trader is enabled to compete with British and American products, and even to drive them ultimately from the market.

"Of course the Japanese authorities cannot but be aware of the fact that this policy must ultimately prove an unproductive investment of capital, seeing that in every loan to the cotton traders there is a clear loss to the nation of 3½ per cent.; but there is no reason to believe that the Government intends to continue this suicidal method of developing supremacy in trade longer than is necessary to rid the Manchurian market of foreign competition which end apparently is being gradually but surely attained. The same method of allaying or suppressing competition is followed in encouragement of the shipping interests of Japan. All the leading Japanese steamship companies are heavily subsidised by the Government, by which they are enabled to pay the promised dividends, while they cut freight rate sufficiently to interfere seriously with the carrying trade of all foreign competitors. A familiar example of this is the fact that the Japanese cotton manufacturers are able to import the raw material from Bombay, pay the freight on it and manufacture it, and then export the fabric to India, cheaper than the India manufacturers can produce the same goods on the ground. Hence, though it may appear a mistaken financial policy to pay profits by subsidy, it may none the less prove effective as a temporary expedient to secure permanent control of the coveted market."



DAIREN, THE "WHITE CITY" OR AMUSEMENT PARK

To a large extent this reflects American opinion, and similar arguments are advanced by British interests, although the latter are more pointed and bitter, owing to the heavy inroads of Japanese cotton goods into the Indian market, displacing the products of native and Lancashire looms. British trade has suffered most from the paternal policy of the Japanese government not only in the piece goods export, but in steamship traffic and other lines, and a natural revulsion of sentiment has resulted as yearly balance sheets show decreasing profits. From keen admiration—one might almost be tempted to say adulation—characterizing the attitude of the British in the Far East towards their victorious allies, at the time of the war, the feeling has altered to one of deep distrust and resentment. The Home Government is accused of sacrificing British interests in China to maintain the alliance and so to the clamor of the unsuccessful American piece goods firms is added the keen criticism of British interests. Japan has received the benefit of the enmity in a vigorous attack on her policy in Manchuria. But Japan naturally resents the charges of unfairness and, after a fashion, has attempted to answer her critics. But it would appear the Japanese themselves have ignored the true economic causes underlying their success, and confined their defense in refuting the charges in an academic manner. Despite the many insinuations that an active governmental press bureau exists in Japan, we have failed to record any evidence of its activity on this issue. In fact Japanese publicists have apparently failed to grasp the situation, and in defending their position have followed the lines of argument advanced by their commercial opponents. I do not attempt to assert that Japan's commercial policy in Manchuria is free from criticism, nor propose to defend her political squabbles with China, but, after a careful study of the situation, I am of the opinion that all the charges and insinuations against the South Manchuria Railway Company fall far short of the mark in explaining the loss of the Manchurian market for American and European products. As a result of several trips to Manchuria, I hold firmly to the belief that the present situation is largely the inevitable sequel to the natural operation of the laws of supply and demand, in which the Railway has simply filled its role as a public carrier, and, granting all the charges of discrimination and unfair tactics, the result would be the same.

It is a self-evident law of commerce that the country consuming the major portion of the exports of another country holds the most advantageous position in supplying its necessary imports. The operation of this fundamental economic law is the basis of Japan's success in Manchuria. For years Japan has been the largest consumer of Manchuria's principal export of beans and bean-cake. The bean-cake was an absolute necessity to the Japanese farmer to fertilize his worn out fields. As time passes this demand will be more acute, and failing the cheaper bean-cake with its high percentage of nitrogen, other fertilizing material must be secured. Before the Manchurian railways were constructed and Newchwang was the only treaty port, the larger British firms established there controlled the trade of the province. The beans or bean-cakes were carted or shipped by river junk to Newchwang to be stored in the godowns of the leading merchants, who also controlled the ocean shipping. At the time when the Japanese farmer required the bean-cake for fertilizing the ground for spring planting, the port was closed by ice, and very often the delay in shipping the cake to Japan entailed considerable loss and damage to the crops. The Japanese purchased their supplies of bean products from the foreign hong who controlled this trade and there was no talk of discrimination at that time. The foreign hong were satisfied with their position at Newchwang. Their agencies throughout the interior were in the hands of Chinese, as they were debarred from establishing branches outside the treaty port. The Chinese traders brought the bean products to the market at Newchwang, receiving in exchange their stock of foreign piece goods and other sundries for the interior trade. The Japanese purchasers of bean-cake paid the

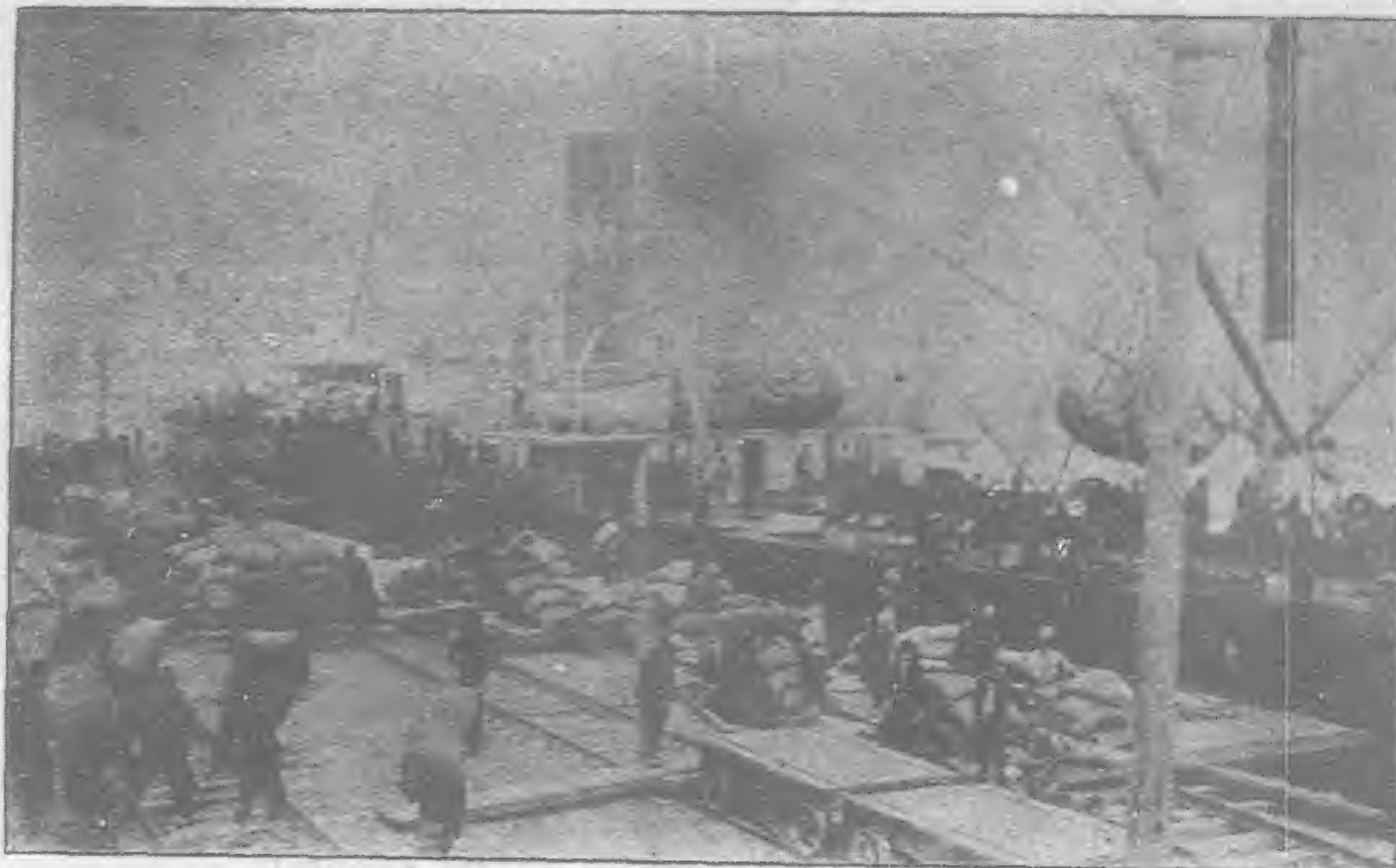
foreigner his profit on the turnover, plus the storage charges, lighterage and freight, and were apparently contented with a situation impossible for them to remedy.

But the war came and changed all this. Japanese merchants entered the field, and, with the ice free port of Dairen as a base, commenced

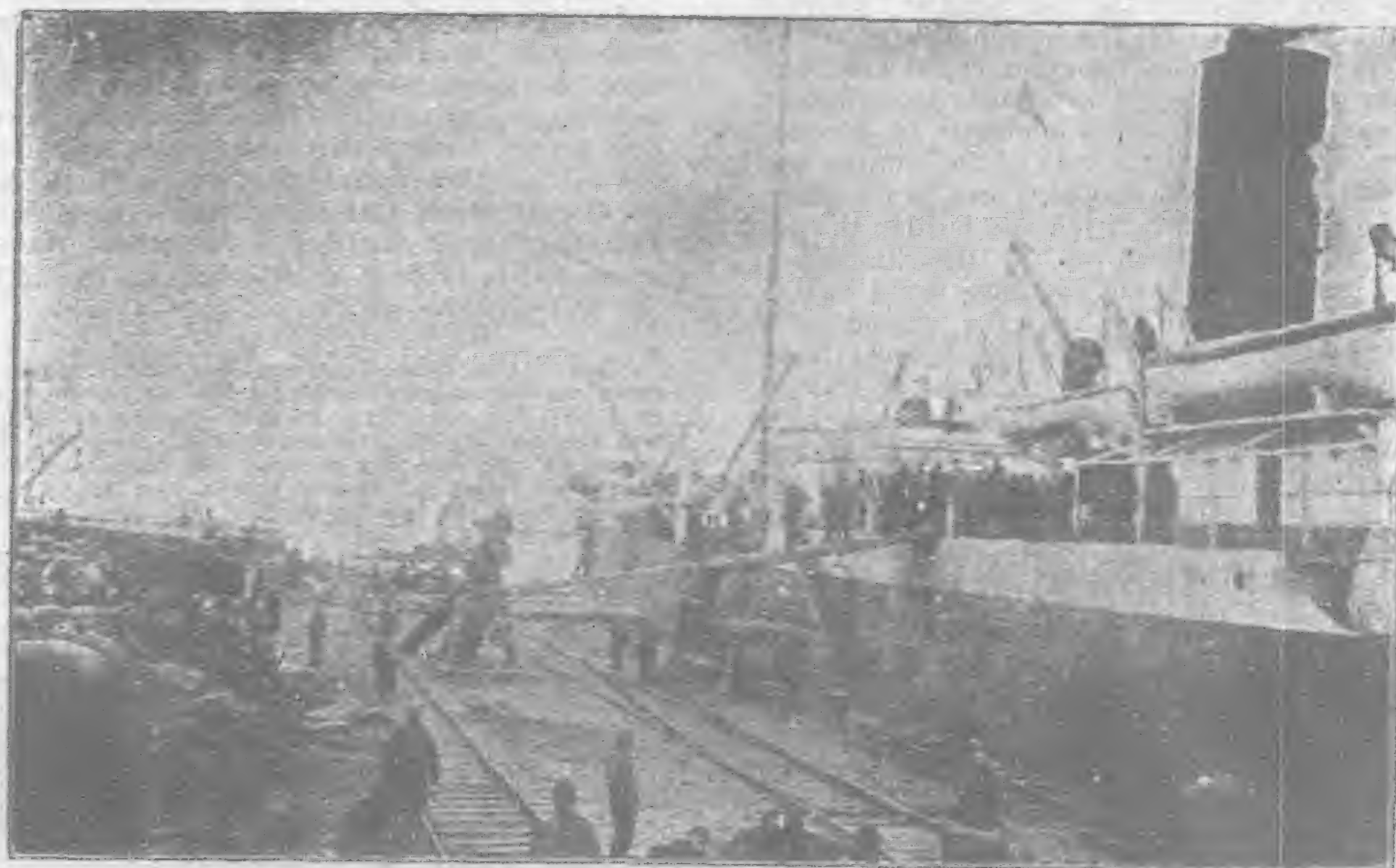
an aggressive campaign to gain control of this important trade. The end was inevitable. As Japan consumed the bulk of the bean-cake, and controlled the railway transportation to a port where storage and lighterage could be eliminated, loading charges reduced to a minimum and their own steamers employed to freight the



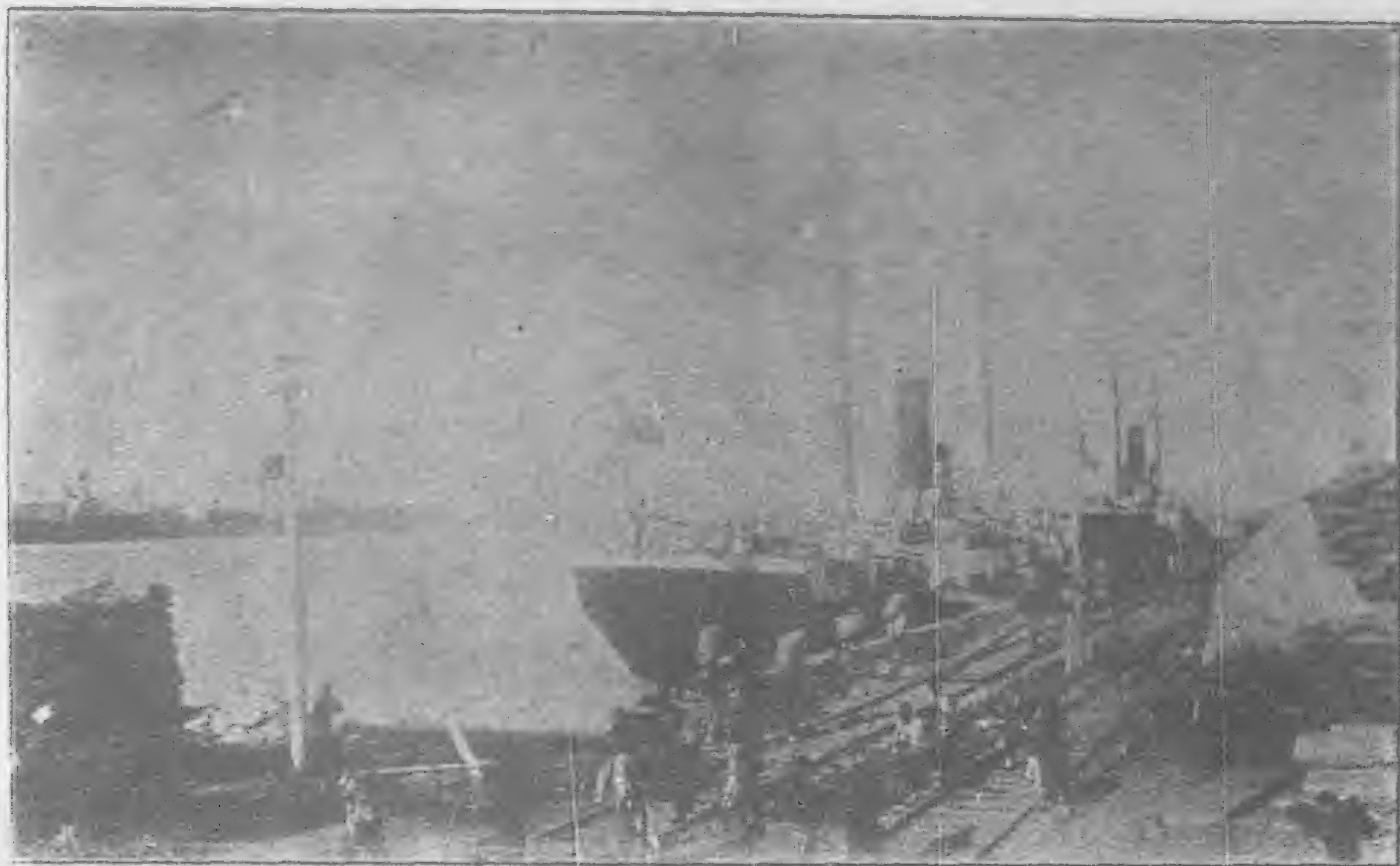
LOADING STEAMER WITH BEANS AT DAIREN



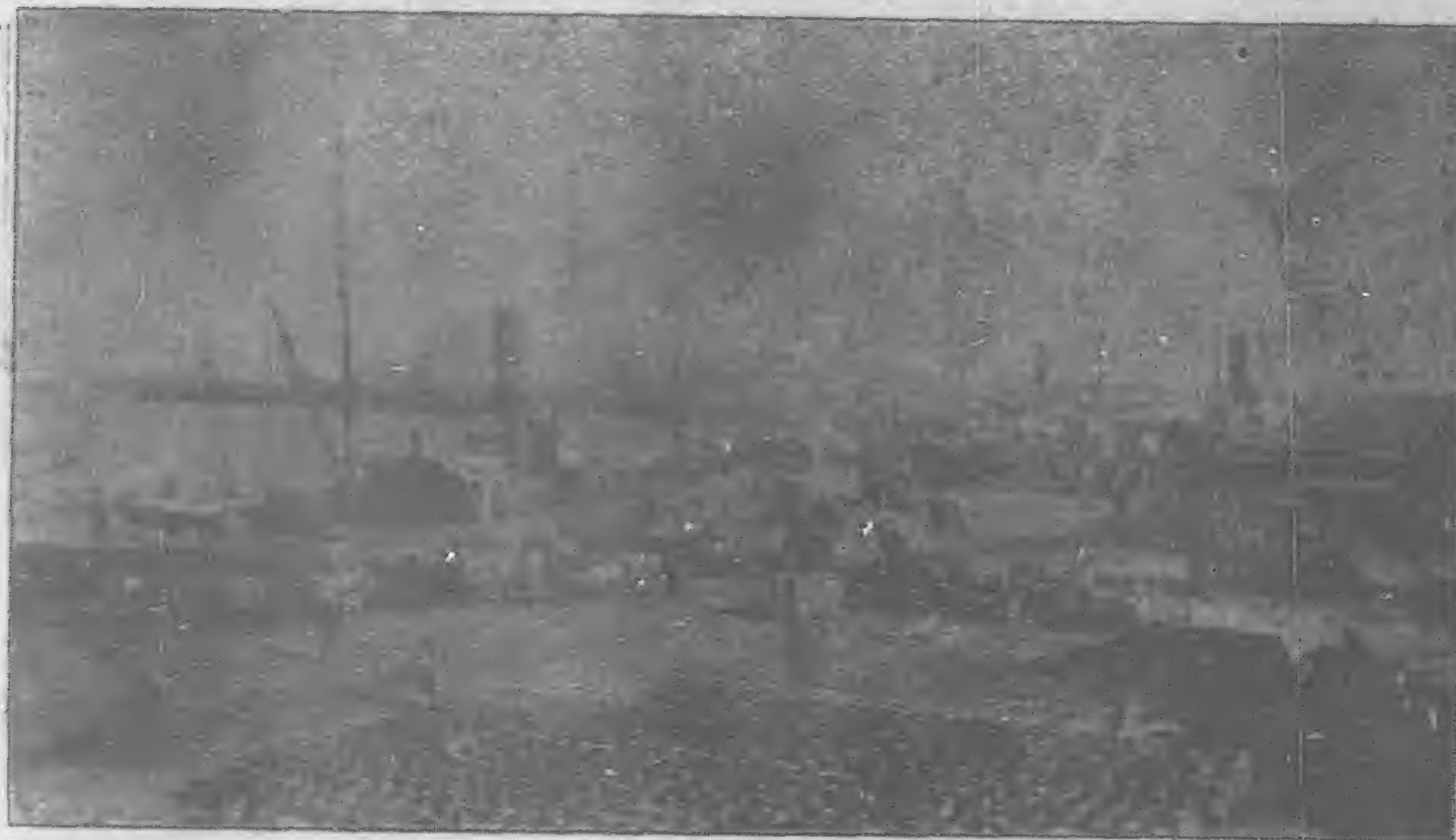
LOADING BEANS AT DAIREN WHARVES



LOADING BEANS ON VESSELS AT DAIREN WHARF



ANOTHER LOADING SCENE AT DAIREN, WHARVES



BEAN OIL AWAITING SHIPMENT AT DAIREN



STORING BEANS AT MANCHURIA.—OIL CAKE CO.'S WAREHOUSES

product to Japan at all seasons, it was natural that her merchants would underbid the foreigner and take away his monopoly. Despite the discriminating railway rate, giving Dairen the same tariff as Newchwang, the foreigner never had a ghost of chance after the appearance of Japan on the scene. The storage, handling, and lighterage charges at Newchwang were in themselves sufficient to offset any difference in the railway freight. Against such a condition of affairs it was useless for the foreigner to struggle. If he attempted to purchase beans or bean-cake, he would have to sell eventually

to the larger Japanese firms controlling the exports to Japan at their price and most likely at a loss.

So, with the export trade of Manchuria in their hands, it was an easy step to monopolize the imports for such Japanese goods suitable to the demand. At a time when Manchuria was impoverished as a result of a devastating war, and the purchasing power of the inhabitants reduced to a minimum owing to a shortage of currency, commerce was reduced to its original character of simple barter. The farmer, hauling his crop many miles to the nearest market

town, exchanged his products for cotton goods and other necessities and received but a small percentage of payment in cash, or the current Japanese war notes.

As a result of the war, many new inland treaty ports were thrown open to trade, and where previously the foreigner was confined to the one port of Newchwang, and forced to deal with the interior through native agents, he could now branch out and establish himself in many large centers of trade throughout the province. Hampered by his established native connections and agencies, the foreigner could not immediately take advantage of this new opportunity without seriously affecting his relations with his old customers. And then again while the country was under Japanese military rule, with its prohibition against travel in the interior, his hands were tied, while his rivals were undermining his position.

On the other hand, the Japanese had no old business connections or traditions to uphold, and as the new ports were opened, branches of their leading firms were quickly established.

With a perfect commercial organization in all the open cities of Manchuria, and with storehouses filled with manufactured products rushed on the scene from a nearly source of supply, it was only natural that Japan should soon control the import trade of the province. It must be admitted that her natural commercial advantages were materially aided during the first year or so of military control, by tactics open to criticism, but as long as she continued to purchase the bulk of Manchurian products for her own consumption, she would in turn have controlled the import trade under purely natural laws without official aid or interference.

Under these conditions the foreign merchants and their agents in the interior were placed at a disadvantage from the outset. As they could not penetrate into the interior and purchase beans by an exchange of commodities, they were reduced to selling their wares for cash—the one thing the native was short on. If they attempted to follow the lead of the Japanese and barter merchandise for beans, they were handicapped by their various charges at Newchwang, and having to ultimately sell to the Japanese at their price, which of course was unprofitably under the then existing conditions. The decadence of American and European imports followed as a natural consequence. A few venturesome American and British piece goods agents established themselves in the interior, firmly determined to win back their lost trade, but acting solely as sellers and unable to reciprocate by purchasing the products of the farmers, results were discouraging, and they finally had to abandon the field as unprofitable.

This in short is the real reason for Japan's success in Manchuria. If all the alleged breaches of the Open Door and all the unfair tactics of the South Manchuria Railway actually occurred, it is difficult to see how they could have altered the inevitable working out of a simple economic law.

It is a far cry from high diplomacy to the humble Soya Bean, yet we hold to the belief that the past and present commercial situation and ultimate solution of the vexatious Manchurian problem is bound up in the control of this one product.

And here we enter into a new phase of the situation, which threatens to completely alter existing conditions. Having control of the import and export trade of the province, the largest and most enterprising Japanese trading firm sought to extend the market for the rapidly increasing bean crop. A trial cargo was shipped to England for the oil crushers to experiment on, and from this event dates a new chapter in the story of Manchuria. The opening of this interesting story is described by the *Manchu Nichi Nichi Shimbun* of Dairen, the official newspaper of that port under date of November 25, 1909.

"THE 'UBIQUITOUS BEANS' "

"Everybody knows that the 'Ubiquitous Beans,' the 'wealth of Manchuria,' are booming up South and North Manchuria as nothing else has ever even come near to, or is ever likely to do. The credit for ushering this new era into the history of Manchurian trade goes without question to Messrs. Mitsui & Co. How this came about will be a matter of interest to many.

"This firm had, before the War, a branch at Newchwang and engaged in the export of Beans to Japan. They thought of shipping Beans, during the winter season when the northern port is closed by ice, to Port Arthur by the Chinese Eastern Railway and thence to Japan by steamer. With this object in view, they approached the Chinese Eastern Railway and induced the latter to publish the freight tariff in the summer of 1903. This led the Mitsui to consider it worth while to send Beans from Tieling then taken by them as the buying centre, to Yingkou by junk down the Liao, and then to Port Arthur by rail. In October they made the first purchase of Beans ever undertaken by Japanese in the interior and in this example were followed by the now bankrupt Tungshengho, the then prosperous Newchwang merchants. Hardly had the Mitsui's two Bean steamers sailed out of Port Arthur with the total cargoes of 45,000 piculs when the first guns of the late War were fired. During the War, Russia saw fit to include Beans in the contraband list, and this effectually blocked all their outlets to Japan. It happened that neither could herrings enter into Japan from Saghalien way. These circumstances quite upset the fertilizer market in Japan. In the mean time, the far-seeing management of the Mitsui started a painstaking study concerning the Bean producing centres of the world and were quite satisfied, as the result, of there being no others than Manchuria and Japan save for Asia Minor and Cochin China, which produced something like Beans. This discovery set them thinking more seriously than ever and was directly responsible for their undertaking the pioneer shipment of Beans to Europe.

"About the time the Battle of Liaoyang was being fought the Mitsui bought up all the Beans to be had about Yingkou and dumped them at a fabulous profit on the short stocked market of Japan. They followed up the track of the victorious Army and also their advantage far into the inland and at once began enquiry into the producing capacity of those regions for Beans. It did not take long before they found out to their satisfaction that the output of Beans in South Manchuria has been ludicrously underestimated and then they immediately cast about for the best market in which to offer them, hitting, with a happy stroke of business foresight, upon Europe as such. No sooner was peace restored in October, 1906, than this firm opened its agencies at Tieling, Mukden, Changchun, Hsinmintun and Kirin and during the winter of '05-'06 sent out their first trial shipment of Beans and Bean Cake to London. This venture proved a miserable failure because, owing to imperfect packing, the cargoes deteriorated so badly on the way that all were thrown overboard. A second consignment to Europe of 500 piculs reached there in good condition in spring last year and met such a favourable reception there that an order for 3,000 tons directly followed and then a string of larger ones in quick succession. The Mitsui were allowed to reap all by themselves the golden harvest of their own sowing till the end of February this year (1909), when a number of strong foreign firms began to appear on the scene to help foster the Bean trade to what it is to-day."

By the end of the season of 1908 it is claimed that the Mitsui Bussan Kaisha exported at an enormous profit nearly 200,000 tons of beans to Europe and the Yokohama Specie Bank operating in combination made an equally large profit in exchange through the transactions. The British oil seed crushers eagerly accepted the new product as the next best oil producer to cotton seed, which for a long time has held a virtual monopoly for the higher grades of vegetable oil. A recent article on the Soya Oil Bean, in the *National Review*, reproduced on another page, tells the story of how the foreign markets hailed the new rival to the cotton seed.

The enormous initial profits of the trade could hardly fail to attract the attention of the great British firms, and incite a desire for participation. Its immense possibilities were quickly realized, and with it came the ambition to wrest the supremacy from the Japanese, and reverse the commercial situation in Manchuria. The first foreign concern to enter the field was Samuel, Samuel & Co., and its China house of Samuel, McGregor & Co., Ltd., and shortly afterwards Otto Reimers & Co., Jardine, Matheson & Co., Arnhold, Karberg & Co., and others entered the arena. Attracted first by the alluring profits of the bean trade, and steamship chartering, these firms soon recognized the practicability of wresting from Japan her commercial supremacy in imports. As long as Japan controls the export of beans her hold on the imports is secure, but with the advent of the powerful European concerns, her position as regards imports is seriously menaced.

The crude soya oil is quoted at about £23 per ton on the London market as against £25 per ton for crude cotton seed oil, and for all general purposes it is considered just as good when refined. The beans found an average market value of £6 per ton delivered in England. At the commencement of the European export when the market was controlled by the Japanese, the price paid to the farmer was as low as Yen 2.50 per picul (\$18.50 per ton), so a handsome profit was left after the freight of \$4 to \$5 was paid. The demand in England is more than



LOADING BEANS INTO SWITCH CARS ON DAIREN WHARVES



VIEW OF PILES OF BEANS ON DAIREN WHARVES



PILES OF BEANS AND BEAN CAKE AWAITING SHIPMENT ON DAIREN WHARVES



SCENES ON DAIREN WHARVES.—STORING BEANS INTO OSIER BINS



THE BUND AND RIVER AT NEWCHWANG.—ONE OF THREE GREAT BEAN MARKETS OF MANCHURIA



THE LIAO RIVER AND PORT OF NEWCHWANG



BIRD'S EYE VIEW OF NEWCHWANG

the present estimated production of 1,000,000 tons can satisfy, and unless the price is unduly inflated, the demand in Europe will ascend to over 2,000,000 tons.

When the foreign firms commenced operations for a share in the trade the prospects were most

promising, as the estimated crop for all of Manchuria was about 1,000,000 tons, and a market eagerly awaiting deliveries. Of this estimated crop it is asserted that only 400,000 tons can be produced in the regions contiguous to and served by the South Manchuria Rail-

way, or that part of the province south of Changchun. The balance of 600,000 tons would have to be secured from the country north of this point, or in the Russian sphere served by the Chinese Eastern Railway, with Vladivostok as a shipping port. Control of transport facil-



PANORAMIC VIEW OF THE LONG WHARF OF THE SOUTH

ities means control of the market, and although the odds were against the Japanese, for a while they maintained their position owing to the shortsighted Russian railway policy, whose prohibitive freight rates to Vladivostok sent the farmers for hundreds of miles into Changchun to secure the lower rates to Dairen over the South Manchuria Line.

When Vladivostok was closed as a free port, and the Chinese Eastern Railway raised its rates in November, 1908, the energetic Japanese immediately took advantage of this act and reduced the rates between Changchun and Dairen to attract the traffic their way. Naturally the farmers, for hundreds of miles within the Russian zone, found it more profitable to haul their crops over the hard frozen ground in winter to secure the advantages of the market at Changchun. The South Manchuria Railway

ful in securing their share of the purchases, they found it difficult to obtain cars for transporting the beans to Dairen, owing to the fact that the larger Japanese firms had contracted ahead for a great tonnage. At times when the market at Dairen was 25% higher than at Changchun, the foreign firm would find it difficult to secure cars to take advantage of the high market, but on the other hand ample facilities were accorded their Japanese competitors. Of course while such a condition existed it gave the latter control of transportation and, therefore, of the market. It was the old story of car discrimination raised in another form, though it was urged in defense that the foreigner arrived on the field after the railway company had obligated itself to transport an enormous tonnage for the Japanese firms, who at that time were the only ones in the field. The car equipment was

rate from any point between Yaomen and Harbin and between Mongolia and Harbin has been made uniform and fixed at 18½ kopeks per pud inclusive of the loading and unloading terminal charges. Taking for instance per ton of Beans for the calculating basis, it takes ¥10.175 from say Yaomen at Vladivostok which, added to by export duty and loading charge, will make ¥11.04. On the other hand, on the S. M. Railway, it requires for shipment from Kwanchengtau to Dairen -¥8.50 for freight and 35 sen for the sundry charges besides 17 sen for Export Duty and 60 sen for cargo-work, making altogether -¥10.42. Then the steamer freight from Vladivostok to Europe is generally higher than that from Dairen by about 48 sen per ton. Thus, it will be seen that the railway and steamer freights from the producing centres to Europe put together will place the S. M. Railway at an advantage over the Chinese Eastern Railway to the extent of about -¥1.30 per ton."

While the existing rates are still in favor of Dairen, according to these figures to the extent of Yen 1.30 or 65 cents gold per ton, this only applies to a haul from Changchun. This dif-



DAIREN.—KAMBU STREET



DAIREN.—KAMBU STREET

also went further, and, to facilitate the passing of both imports and exports through Dairen, undertook the passing of cargoes through the Dairen customs, pay all charges and generally act as forwarding agents for their clients. This enabled a merchant at Harbin or Tsitsihar to send a cargo through to Shanghai for instance without the expense of a forwarding agent at Dairen. He received a full statement of all expenses plus a small commission for the Railway, and the farmer or merchant was benefited. Russian traffic suffered thereby and it gave to the Japanese, for the time, control of the bean trade. The Russians held the key of the situation, but foolishly gave the advantage to Japan.

During the winter of 1908-09 the first foreign firm entered the field at Changchun to compete with the Japanese, and while they were success-

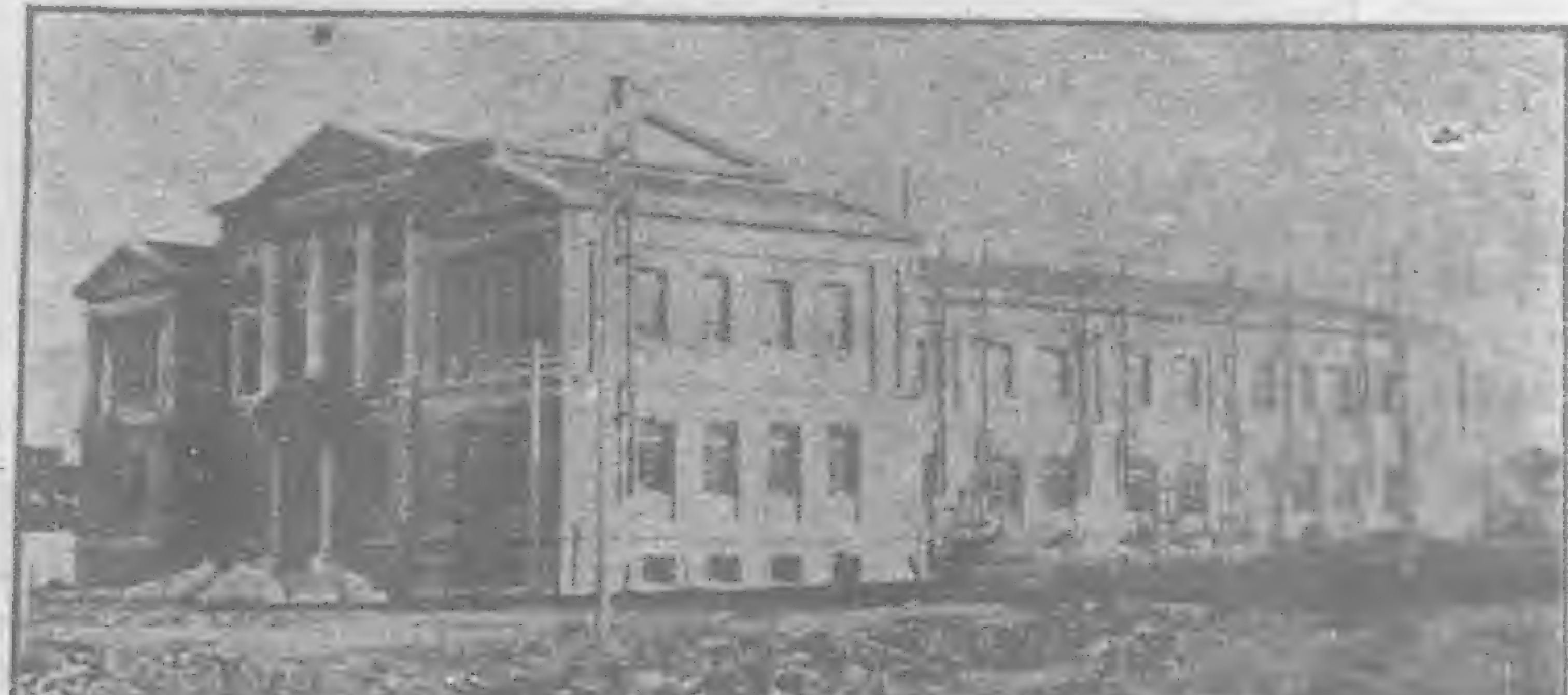
limited, and overtaxed to handle the traffic over its single track, and therefore the foreign firm would have to take its chances on cars and accept the allotment made to them. This attitude is apparently justifiable and releases the railway company from the implied charge of discrimination. But the foreign firms made overtures to the Russians for lower rates to compete on even terms with the Japanese, and after several interviews the former modified their tariff to meet the competition of the South Manchuria road. The *Manshu Nichi Nichi* gives these prevailing rates as follows:—

"The Chinese Eastern Railway has lowered the freight charges, etc., on staple produce of Manchuria from Yaomen, north to, and from Mongolia east to, Harbin and thence to the seaport of Vladivostok. The freight

ference, however, effectively prohibits Japan from securing control of the market, and gives the firms operating in the Russian zone control over the major portion of the crop, and also over future development. The apparent favor of 65 cents gold per ton only extends to those districts where the cart haul to Changchun can be accomplished within that cost, otherwise the Russian road secures the freight for shipment at Vladivostok. So in reality the slight difference is only nominal and, with favorable charter rates from Vladivostok, the market position at Changchun is neutral. In the export of beans shipped to Europe during Nov. '08-June '09, the port of Vladivostok is a close second to Dairen, the figures being 143,739 tons from Vladivostok against 152,000 from Dairen.



PRIMARY SCHOOL BUILDING, DAIREN



THE NEW MILITARY HEADQUARTERS BUILDING, DAIREN



MANCHURIA RAILWAY AT DAIREN

This change in the situation effectively insures fair play to shippers by both railways, and removes from the field altogether any further charge of discrimination on the part of the South Manchuria Railway, as any attempt to withhold cars from the European shippers at Changchun would simply throw the traffic into the cars of the Russian road at their siding. There is now no further insinuation of secret rebates to favored Japanese firms as the maximum rebate officially allowed by the South Manchuria Company is 7% on annual shipments aggregating Yen 500,000 or over. At Yen 8.50 per ton, less than 60,000 tons enables any shipper to obtain the maximum rebate,

Russia on terms of equality. And in this fact lies the menace to Japan's present predominating commercial position in Manchuria, and threatens her future prospects, until the Kirin Railway and its extension to Hunyan is completed. Having in mind the great possibilities of this new agricultural product, and the necessity of Japan controlling the market, so as to insure her hold on the imports, the Kirin-Hunyan railway concession secured from China is as essential to Japan's commercial position as it is strategically. With this road, and its outlet through a new port, paralleling the Chinese Eastern Railway, and competing with it for the products of that region, Japan can bid

infancy. No more is it a question of how much foreign goods Manchuria can consume, but rather how much the foreigner is prepared to purchase of Manchurian products. As long as the Manchu can raise Beans and find a ready export market at prices averaging \$25.00 gold per ton there is no limit to his purchasing ability. A crop of 1,000,000 tons of beans amounts to \$25,000,000 gold to the farmers, and with this amount of money circulating in the province the imports will take care of themselves. If British or European markets consume the bulk of this crop, their goods in return will ultimately displace the products of Japan.

The prospect is a serious one to Japan, as



ROAD-MAKING, DAIREN

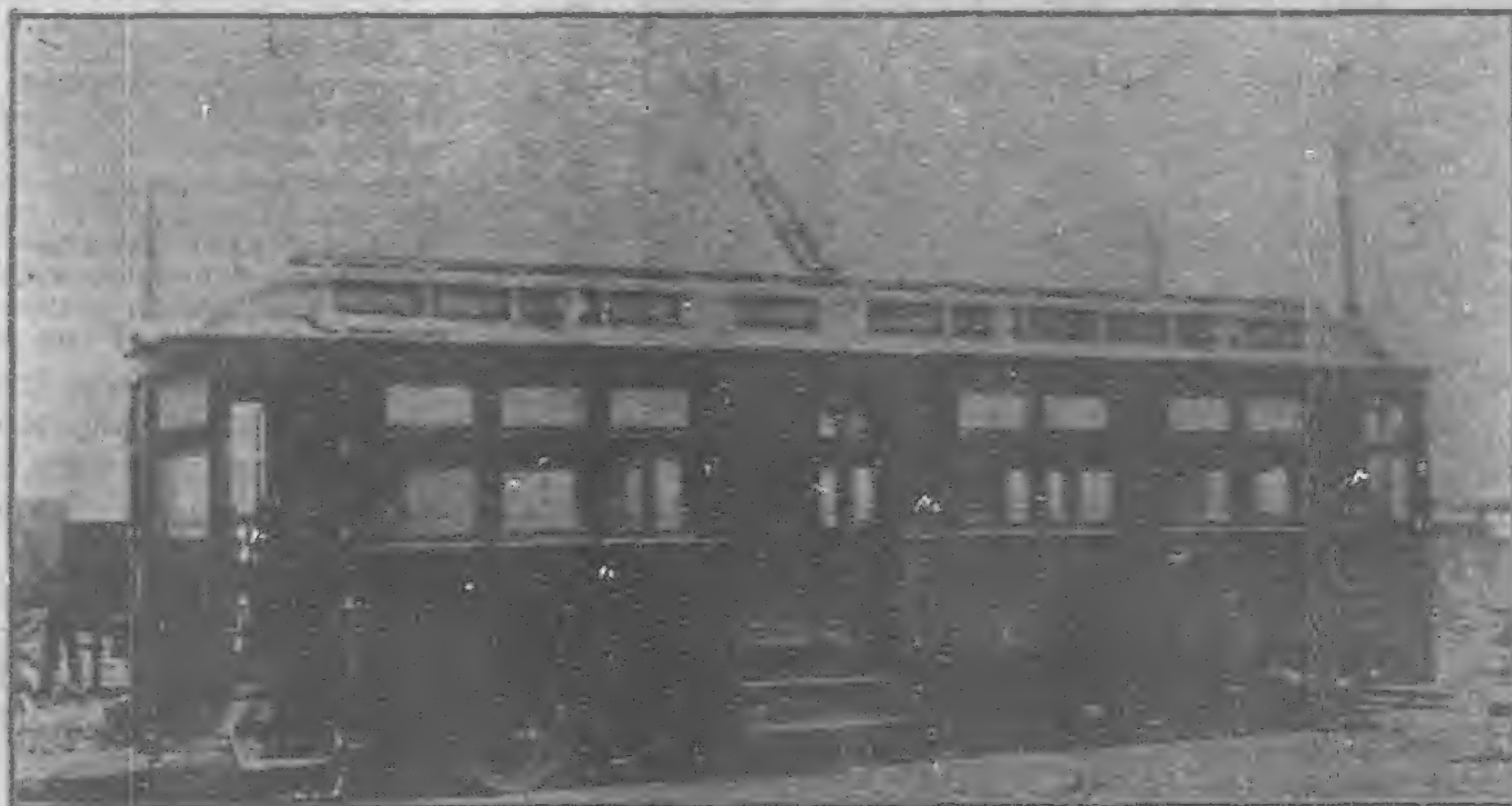
and as this is only a fraction of the total, it cuts no figure in the fight for control of the trade, and in fact the foreign firms on the ground admit that this factor is now eliminated. So, with car discrimination relegated to the past, and secret rebates eliminated, there are no further grounds for complaint, and Japan must play the game fair, or be defeated. And here is the crux of the whole matter. It is admitted by competent authorities that any great increase in the bean crop cannot be looked for in southern Manchuria, as the country is fairly well developed, and only in the sparsely settled and virgin lands of the North under Russian influence is any great development possible. Already controlling the major part of the visible crop, this will throw the future control of the trade to the Russian railway, and insures foreign firms an opportunity to compete with Japan and

for the major share of the future enormous bean traffic of Manchuria.

Through her own enterprise in extending the market for bean products to Europe, Japan has opened wide the door to her own disadvantage which foreigners claimed was being closed against them. There is only one end to the fierce commercial fight just initiated. British oil crushers will favor the purchase of beans through British exporters, and, with fair play, the latter will eventually control the trade. As the foreign bean merchant purchases the product of the farmer, and freed from the necessity of disposing of it to Japan, he will be in a position to offer wares of his own country in exchange. And then the tables will be slowly turned and as Japanese goods ousted the foreign so will the latter in turn displace the Japanese. The future of Manchurian trade is yet in its

TYPE OF ELECTRIC CAR, DAIREN

aside from the menace to her export trade, the high prices and steady demand for the beans will diminish the native output of oil and bean cake, and compel her farmers to adopt some other cheap fertilizer instead. With the loss of her commercial supremacy, her political prestige will dwindle in proportion. The railway on the other hand will prosper and reap large dividends. As it is, the road is hard pressed to handle its increasing tonnage, and cannot cope with the situation. As in America during crop season, there is and has been a car famine, and the company simply cannot handle the traffic. The railway was double-tracked to the Fushun Mines to be able to haul out the 3,000 to 5,000 tons per day they will shortly produce, and now as they have about completed this task, the sudden and unlooked for development of the bean trade, compels



KODAMA STREET, DAIREN



NIPPON BRIDGE, DAIREN



PANORAMIC VIEW OF DAIREN, LOOKING ACROSS THE NIPPON BRIDGE TO THE OLD RUSSIAN ADMINISTRATION TOWN

them to doubletrack the entire line to Changchun. Until this is done, the road cannot keep abreast of the demands on its capacity, and as the trade expands we must expect to hear still further talk about discrimination, owing to its utter inability to handle the traffic. Already it is estimated that the export of beans to Europe alone from Dairen will reach 500,000 tons for this season, and with the exports of oil, cake and other cereals to Japan, Korea, South China and elsewhere, the total volume of traffic on the line will exceed 1,000,000 tons, exclusive of the output of Fushun Coal. These figures are eloquent of the forward strides in Manchuria, and to keep pace with the movement must tax the capacity of the railway and port of Dairen to the limit. The following extract from the 1908 report of H. B. M.'s Consul at Dairen throws light on these matters:

Harbour Works, Wharves, &c.—The harbour works at Dairen consist of two large wharves with a breakwater to the north. The west wharf has been in use for a considerable period, and affords berthing for eight vessels, while three more can lie alongside the quay connecting the two wharves. There is accommodation for two vessels at the completed portion of the east wharf, but the remainder is still unfinished. The east wharf is to be 909 ft. long, 540 ft. wide and 30 ft. above low water on spring tides. So far, about one-third has been completed, and another 280 ft. in length is to be added during 1909. During the next winter season grain elevators are to be installed on the wharves. The east breakwater, which is a continuation of the east wharf, is to be 1,221 ft. long, 20 ft. wide, and 19 ft. above low water on spring tides. By the end of 1909 nearly two-thirds will be completed. The total length of the north breakwater is to be 2,850 ft., while the breadth and height are similar to those of the east breakwater. Of the total length about one-half has been completed, and a further 600 ft. will be added in 1909.

Insufficiency of Accommodation.—Though the wharf accommodation is ample during the summer months it falls far short of the needs of the port in the rush of the winter season. The transporting capacity of the railway this season is 5,000 tons (of 2,000 lbs.) a day, while the export capacity is only 4,000 tons. The result is that stocks on the wharves are accumulating rapidly, and the export season will be prolonged far into the summer. Next season matters will be worse, as the transporting capacity of the railway will be greater.

And next season (1909) has arrived and despite the strenuous work of the Dairen Wharf office during the summer of last year, the wharf accommodation remains inadequate. Extra tracts of land have been added for storage grounds, railway switches extended, and loading devices installed, but the influx of beans is greater than can be carried away by the steamers. The new trade has caused a general revival of steamship business, and vessels from all parts are being chartered to handle the ocean freight. The Japanese were quick to grasp the situation and foresaw that the limitations of the port would throw the trade to Vladivostok, unless something was done to remedy matters. The right to extend the existing branch of the railway three miles into Newchwang, to handle the overflow from Dalny, was secured from China, in the recent convention, but even this outlet cannot give adequate relief, so, as a last resort, Japan has announced to the world, with many flourishes, the opening to trade of the hitherto closed naval harbor of Port Arthur. A recent article in the *North China Daily News* on this matter says:

"With regard to the opening of Port Arthur and the South Manchuria Railway Company's plans, an official of the company is credited with saying:—The harbour works of Tairen were planned by Russia. In undertaking these tremendous works, Russia must have had the idea that the harbour of Tairen was ice-free. As the port faces north, however, floating ice is driven out of the port to where the present pier stands. But, owing to the existence of the pier, the floating ice is kept within the port, causing the freezing over of the harbour. To keep the harbour of Tairen free from ice, therefore, a break-water would have to be added to the existing pier. Whether such a work will answer the purpose is, however, a question. Moreover, the construction of a break-water means the expenditure of great sum of money. Port Arthur on the other hand, is screened by a range of mountains and is entirely ice-free throughout the cold season. The works on the harbour of Port Arthur may perhaps involve expenses as great as those needed for a breakwater at Tairen, but they will, when completed, make the harbour a far better one than the latter.

"The opening of Port Arthur was, the other day, formally announced by the Foreign Minister in the Diet, and the South Manchuria Railway Company has many plans in connexion with the opening of the port. The details of the programme have not yet been decided, but the general plan is as follows: A tract of the sea from the railway station, covering an area of 300,000 or 400,000 *tsubo*, is to be dredged so as to keep the water from twenty-four to thirty feet deep at low tide. Three piers will be built, and fifteen vessels will be able to come into the port at one time. A canal about one *cho* long and twenty-four feet deep will be dug at a corner of the west port. Part of the work proposed is now being carried on, and the dredging of the port will soon be commenced."

So the opening of Port Arthur is not due to any altruism on the part of Japan, her own best interests demanded it.



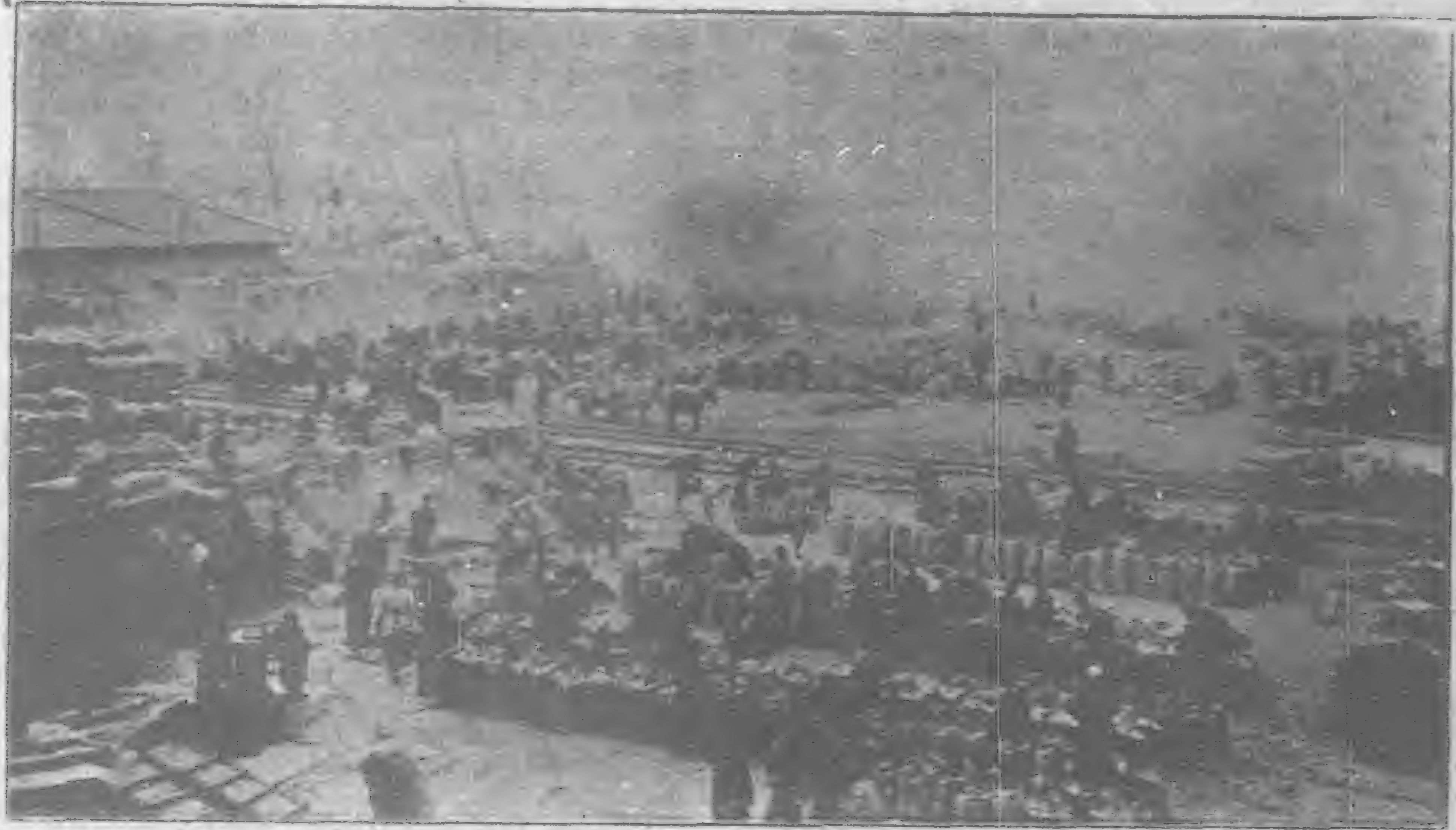
PANORAMIC VIEW OF DAIREN, FROM THE HILLS LOOKING TOWARDS THE HARBOR



DELIVERING BEANS IN CARTS



OPEN STORING GROUNDS AT DAIREN WITH PILES OF BEANS



CLEANING AND RE-SACKING BEANS AT DAIREN WHARVES FOR SHIPMENT TO EUROPE



SANSING, IN NORTH EASTERN MANCHURIA

The exports of Beans from Manchuria to Europe alone is expected to reach \$30,000,000 this year, and the demand there for the cake itself is rapidly increasing. The Chinese officials have naturally endeavored to reap some extra profits out of this new demand. A semi-official financing organization was formed at Mukden, to control the purchase of Beans, and corner the crop. Of course this was conducted on purely patriotic lines, to deprive the Japanese of their monopoly. This semi-official interference in commerce brought its inevitable result and a recent telegram from Newchwang states that, owing to the rise in the price of soya beans, many Chinese merchants are becoming bankrupt and a financial panic threatens.

"In this connection, a Changchun telegram states that a Chinese agricultural company, with which the Changchun Tactai is connected, failed to deliver 200,000 koku of beans to Messrs. Samuel, Samuel and Co. and that the latter are claiming a large sum as compensation. This and other failures of a similar nature are greatly disturbing the financial position throughout Manchuria. Messrs. Samuel, Samuel and Co., Messrs. Jardine, Matheson and Co., and Messrs. Otto Reimers and Co., influenced by the fact that the Mitsui Bussan Kaisha exported about 200,000 tons of beans during last year, decided to take up this business on a great scale and entered into a number of contracts with Chinese. The London office of Messrs. Samuel, Samuel & Co., in especial, sent large numbers of orders for the beans to its branch in Manchuria. Consequently, since the end of October many steamers have arrived at Tairen to take home cargoes of beans but have been surprised to find only small stocks awaiting them. This is due to the fact that a number of the Chinese merchants concerned broke their contracts owing to a rise in prices caused by other Chinese buying beans largely in rivalry with them, the quotation jumping from Y2.70 or Y2.80 per 100 kin to Y3. As the attempt to make a corner in beans has continued, the accumulation of steamers waiting for cargoes at Tairen has increased and the quotation has now risen to even Y3.50. It is expected that the Mitsui Bussan Kaisha and the foreign firms will sustain severe losses. It is also feared that the development of Tairen's trade with Europe will be checked and that the export of Manchurian beans to Japan and South China may be interfered with. Furthermore, several beancake factories have been compelled to suspend business in consequence of the rise of prices. The affair, according to the message, is causing considerable anxiety, as it is thought that it may lead the big firms disgusted with the bean trade, while making the Manchurian producers shun big harvests, so that the progress of Tairen and the regions along the South Manchurian Railway may be greatly checked. On the other hand, it is said that it is feared that a continuance of the European demand for Manchurian beans will prove a great blow to the fertilizer market in Japan."

And following shortly after this came the following story, which has since been partially verified by telegrams from Peking:

"A report has been received by the Harbin Stock Exchange of a diplomatic collision in Peking over beans. In Southern Manchuria, sums received from the Chinese salt monopoly and other sources of Government finance are devoted in the autumn to the purchase of beans, the Government having pledged itself to sell the beans at a fixed price to a certain British company. When the Mitsui and other outside firms began to buy, offering the agriculturists higher prices, the latter discontinued delivering the beans to the Government and sold them to the new purchasers. Thereupon the authorities became alarmed and the British firm protested. The Viceroy then decided to prohibit the export of beans from Manchuria, in order to compel the peasants and dealers to deliver the whole harvest to the Government, thus enabling the latter to fulfil its obligation to the British firm. But even before this measure was adopted a prohibition was issued against the transport of beans from the place of production to the railway stations. Suddenly Japanese flags were seen hoisted over the good trucks belonging to the Mitsui firm, and before these the Chinese guard stationed on the line respectfully retired. The foreign Consuls acquainted their Ambassadors with the circumstances, and the latter categorically protested against the prohibition of the export of beans, as an infraction of the principle of the Open Door."

So here we have an entirely new phase to the Manchurian situation. If the natural laws of trade are permitted free scope, the complex problem is in a fair way towards a definite settlement, without the intervention of diplomacy. As Japan secured control of the Manchurian markets through the inexorable laws of trade, so will she relinquish it.

The proportion of trade falling to any one country will depend on her exertions to participate in and compete for it by furnishing a market for Manchurian exports. If America desires to regain her lost advantage in the sales of cotton goods to this market, her firms should follow the energetic example of British traders, and get into the middle of the fight and open up a market for Manchurian products in America, and not charge the Japanese with underhand practices to account for their failure. Anything that is worth having is worth going after, and if American firms expect President Taft or J. P. Morgan to secure for them their lost prestige, without some effort on their own part, they will be doomed to disappointment.

(Continued on page 486.)



PANORAMIC VIEW OF VLADIVOSTOK

THE AMUR RAILWAY

Two hundred million dollars gold for a railway 1,326 miles long, or \$150,000 per mile, for purely commercial reasons.

"When the cat is to be let out of the bag, commend me to a Russian newspaper for the uncompromising manner in which it is performed," commented Lord Curzon some 15 years ago. And today the same rule applies, and is emphasized by the article in the *New York Herald* of December 19th, ulto., by its special correspondent who recently completed a trip down the Amur River.

The Earl of Ronaldshay in his work "On the Outskirts of Empire in Asia," written in 1904, quotes one of the same Russian newspaper

editors interviewed by the *Herald* correspondent in 1909. "Is it possible, asks the *Pri Amur Vedomosti*, that the Americans imagine that Russia has spent so much treasure and blood on Manchuria simply in order to convert it into an open bazaar? Do American editors really seriously imagine that Russian officers who have traversed Manchuria through and through in peril and suffering, constructing the railway and defending it from hordes of Boxers, that the Russian Cossacks and soldiers who have performed miracles of valor in the last Chinese war—modestly termed troubles—have suffered all this, and fallen on the field of battle, for the sake of foreign commercial firms? It was not for this that Russia has done what she has. In one word, we have fought and labored in Manchuria, not for the sake of open doors."

And if Russia expended nearly \$150,000,000 gold on her Manchurian Railways, and an equal amount on the building of Port Arthur, Dalny and Harbin, including over \$1,200,000 as bribes to secure the lease and concession, as a preliminary to her monopoly of Manchurian trade, what object has she in view now, by the expenditure of an almost equal amount for a route to the sea 600 miles longer via the Amur River? Russian officialdom suavely assures the world that purely economic reasons compel the opening up of this barren and bleak corner of their domain, but the Russian newspaper, true to its traditional reputation, emphatically contradicts the government and corroborates foreign suspicion that the Amur road is to be built for purely strategic reasons. Against what enemy?

Japan first, and China afterwards. Japan did not insist on the Antung-Mukden reconstruction, and the concession for the Kirin-Hunyun line, until after the Russian Duma had officially authorized the construction of the Amur Line. And if the peace of the East is again broken, which seems probable—the building of the Amur Railway will in a large measure be responsible for the outbreak of hostilities, as Japan's preparations in Korea and Southern Manchuria are, in the opinion of a competent Russian observer, based less upon a desire to attack than to defend.

The *Herald* correspondent says:

"My impressions of a journey replete with interest at every step fall into two main groups. One is the attitude of Siberia toward the belated effort of the Russian government to realize an undertaking which, in the opinion of the opposition elements, would have eliminated the most unfortunate and depressing chapter in modern Russian history had it not been superseded by the construction of the Chinese Eastern Railway. The other is the trend of public opinion from Irkutsk to Vladivostok in its relation to Japan's feverish activities in the south.

"From the politicians, publicists and journalists of Eastern Siberia I gained a very fair idea of how the country regards the determination of the authorities to devote upward of four hundred million roubles to the opening up of a direct route through undisputed Russian territory, from Stretensk to Khabarovsk.

"Mr. N. K. Volkoff, the kadet Deputy from the non-Cossack section of the Zabaikalye in



H. E. CH'EN CHAO-CHANG, GOVERNOR OF KIRIN PROVINCE, FIRST DIRECTOR GENERAL OF THE PEKING-KALGAN RAILWAY



CHANGCHUN, THE GREAT BEAN CENTER OF MANCHURIA: A MUD HOLE ON THE MAIN THOROUGHFARE



an interview which I had with him at Chita, where he was trying to obtain permission to address a meeting of his electorate, assured me that the Amur Railway was a non-party question in those regions. In the comparatively rare instances where opposition was expressed to the enterprise this opposition was based not upon a fundamental difference of opinion, but merely upon grounds of financial expediency, some holding that the national exchequer was in no fit state to stand this additional and enormous strain in the wake of the sacrifices entailed by the recent struggle.

"Precisely the same view of the situation was expressed by the editor of the leading Chita paper, the *Zabaikalskaya Nov*; by Mr. A. P. Silnitsky, the proprietor and publisher of the *Priamurye* at Khabarovsk, and by nearly every other newspaper man or politician with whom I had occasion to discuss the subject. A partial exception was furnished by Mr. V. Panoff, once a naval officer, who is a resident of thirty years' standing, a sinologue and profound scholar, proprietor of the newspaper *Dalny Vostok* at Vladivostok. Thoroughly conversant with Eastern Siberia and the Far East generally and with the Maritime and Amur provinces in particular, he is peculiarly well fitted to consider the problem in all its bearings.

"Frankly," he said, "I am not sanguine as to the economic advantages of the new line, but at the moment it appears a strategic necessity. Alone, however, it is quite inadequate. In order to be of permanent value it must be reinforced by the creation of a new fleet in Far Eastern waters strong enough to cope with the Japanese, and it must be admitted that there seems to be small likelihood of this happening for many years to come.

"In its economic relations the Amur Railway may confer seeming benefit upon a comparatively narrow strip of territory bordering the river of the same name, but beyond the shadow of a doubt the undertaking is destined to remain for many years a heavy burden on the treasury. Think, too, of the cost of equipping a powerful and independent military base in the Far East and the maintenance of a land force there really competent to oppose with any hope of success the efforts of an enemy to seize isolated portions of our Far Eastern dominions before reinforcements could hasten to the scene of operations from our centre. This point is important in view of the difference in the length of China-Japanese lines of communication via Korea and South Manchuria.

"It is equally obvious that we cannot dispense with a fleet equivalent in the number of its units and its composition to that of any possible adversary. Land defence will remedy only the condition which has been brought about by ourselves in consequence of the opening of South Manchuria in the flank and rear of our position in the Far East. But when Japan assumed a permanent strategical position against us in Korea, if we do not wish to see from one side an entirely unopposed movement thence of

Japanese armies in the direction of our borders and from the other Japanese descents upon our coast line, resulting in the wedging in, so to speak, of the whole Ussuri region as in a vice, it would certainly be senseless for us to remain without a fleet capable of offence and defence.

"Then," I asked, "do you charge Japan with further aggressive designs upon Russian territory in the Far East?"

"When Russia committed the monumental blunder of taking Port Arthur, creating Dalny and building the South Manchuria Railway," replied Mr. Panoff, "I foretold almost in detail what would be the outcome. As I have written in my recent brochure on the subject, a second war in the Far East will hang over us as an abiding menace, not only in the event of complications in the Far East itself, but also in connection with those collisions of conflicting interests of the Powers in Europe, which are nowadays so frequent. For Russia in the Far East this is a sore and open spot which none of her serious antagonists or rivals in international politics can afford to overlook, nor will they let slip any convenient opportunity of tying her hands by means of her position in the Far East.

"As regards Japan, I would not be quoted as declaring that she deliberately contemplates a policy of aggression against us. In my opinion Japan's preparations in Korea and Southern Manchuria are perhaps based less upon a desire to attack than to defend. Doubtless Japan anticipated the possibility of Western intervention in Korea and the demand for a protectorate there of the Powers. Thus the more firmly she is established in the peninsula the less likelihood will there be of any such intervention.

"Again, it is obvious that in the event of such united action against Japan Russian co-operation from the land side would be indispensable, so that any Japanese scheme of defence in Korea and Southern Manchuria must take into consideration Russia's position in the north in conjunction with the strategic potentialities of the Amur Railway.

"On her part, Russia, who made the mistake before and during the war of persistently regarding Japan as an Asiatic Power in the military and naval sense, is at last fully alive to the truth, and the necessity of strengthening the defences of Eastern Siberia is theoretically recognized, although very little of a really practical nature has so far been accomplished."

"Mr. Panoff estimated that there could not be more than one hundred and fifty or two hundred thousand troops of all arms in that part of the country, a force totally inadequate as a guarantee against the attack of a skilful and resolute foe. I am aware that many amateur foreign observers have assigned to Eastern Siberia a far larger garrison than the above, but it would be impertinent to question the knowledge of a man like Mr. Panoff in this field.

"Japan," continued Mr. Panoff, "naturally anticipates the recuperation of Russia in the course of time, and with her customary farsighted-

ness is making preparations for every conceivable emergency, both in Korea and Southern Manchuria. Japan understands as well as we do that, for many years at any rate, her only possible opponent on the continent will be Russia, while the latter, on her part, will hardly dream of entering upon a second policy of aggression single handed.

"Still, as the same publicist has pointed out in his recent masterly summary of the past and present situation in the Far East, the Siberian boundary under Russia's very eyes is being converted into a continuous and unbroken line of Japanese bayonets. The strategical position of Manchuria, created by Russia's own policy of extending the Chinese Eastern railways south to Port Arthur and Dalny, strengthened by the new Japanese line from Antung to Mukden and the Chinese line to Hsinmintun, has actually transformed that boundary into an extensive road for offensive action against Russian confines and has invested it with the qualities of a possible battering ram, destined, as he puts it, at a given moment to shatter the weak link between the Zabaikal and Ussuri regions and to cut off Russia's advance supports in the Priamurye from her political and strategical rear.

"I cannot say that I detected anywhere in Eastern Siberia tangible evidences of active hostility toward the Japanese, who manage to make a comfortable livelihood, in gradually growing numbers, from Chita to Khabarovsk and Vladivostok, as barbers, photographers, laundrymen, small traders and, if the truth must be told, to no inconsiderable degree, as caterers of vice.

"At the same time it was the exception to meet anybody who did not regard Japan's progress in Southern Manchuria with suspicious eyes. One alarmist at Vladivostok stated it as his firm conviction that Japan would capture that port in ten years at the outside. The better informed, however, are fully alive to Japan's political and economic embarrassments vis-a-vis China and the Powers.

"While it is recognized that China has no special love for the Japanese, it is equally patent that she has no reason to be grateful to Russia, and it is this factor of the situation which causes belief in the possibility and probability of a joint Japanese-Chinese movement against the Zabaikal, Amur and maritime provinces in the near future.

"Although Mr. Panoff in his conversation with me declined to share the popular belief in the intention or ability of China to win back by the sword territories which she ceded to Russia under the Aigun treaty, and characterized the striking expansion of the immigration movement in Mongolia and along the right bank of the Amur as purely economic, he, together with other writers, has called attention elsewhere to the fact that Mongolia has begun to threaten the Zabaikal; that Chinese lines of railway are being built or projected to the very banks of the Amur; that a Chinese town



THE CHINESE EASTERN EXPRESS TRAIN PULLING OUT OF HARBIN

is contemplated at the mouth of the Sungari; that the middle stream of the Amur itself is open to Chinese steamship navigation; that the portion of the Manchurian railway which remains in Russian hands in the west is said to be already passing under the supervision and control of Chinese garrisons. In other words, it is contended that the 'rights recovery' or 'Young China' movement is nowhere more clearly defined and insistent than as against Russian pretensions.

"In spite of the provisions of the Aigun treaty, for example, the Chinese authorities have presumed to impose duty upon Russian goods on the right bank of the Amur and on the Sungari, the protest of the Russian Minister in Peking being ignored.

"If Mr. Dick could not keep King Charles' head out of his memorial, it is equally impossible for the majority of Russians in the regions under review to refrain from ascribing many of these sinister symptoms to Japanese influence. China, it is said, under the aegis of Japan, is following the line of least resistance, which is Russia.

"I can myself testify that quite a small city has already sprung into being immediately opposite Blagoveshchensk, on the Chinese bank of the Amur, at a spot where, as recently as the Boxer outbreak, there were few signs of human habitation. I am told that the Chinese are energetically working on a military line in the same direction, while on the Russian, or left bank, there is not so much as a single railroad, since it is as yet premature to speak of the Amur line, which, under the most favorable auspices, cannot possibly be finished in less than seven years.

"As intimated above, the Chinese garrisons in Manchuria are growing, both along the line of the Chinese Eastern Railway and neighborhood and that of the Mukden-Harbin branch. Against whom, it is asked, is China strengthening her northern boundary?

"The facts concerning the Amur Railway can be very briefly summarized. The nominal starting point of the new line is at Koina, a station situated between Nerchinsk and Stretensk, on the banks of the Shilka, which flows into the Amur, and its terminus is to be Khabarovsk, at the confluence of the Amur and Ussuri rivers, a distance of approximately

2,200 versts, with a branch to Blagoveshchensk, perhaps 120 versts from the trunk line.

"Undoubtedly, too, other smaller branches will be pushed out from the main line to the Cossack stations on the banks of the river, and one of these, at Chasovinskaya, between Stretensk and Blagoveshchensk, is now completed and is being utilized for the conveyance of materials to the trunk line, about twenty or thirty versts away. Large stacks of rails, sleepers, bolts, rivets, nails, etc., together with a considerable quantity of rolling stock, bear testimony to the fact that work is actually proceeding, though no rails have yet been laid on the trunk line.

"At the time of my visit about six thousand Russian laborers were employed on the construction work, and from the spring of next year it is affirmed that the taiga (Siberian bush) will be roused by the arrival of fresh bodies of men, to the number of fifteen thousand, in addition to several hundreds of constructors, contractors and clerks. Although the exclusive employment of Russian labor, as far as the actual construction work is concerned, will involve

an enormous increase of the cost, the Duma nevertheless decided that Chinese labor should not be made use of, and as the Russian population of the district is itself too meagre to furnish the number of hands required, the bulk of the latter has to be imported from European Russia.

"The engineering difficulties to be surmounted are very great. Even on horseback it is not possible to cover more than five versts an hour in many places. The scenery, however, is superb, and when the line is finished it will certainly become popular among travellers. Gold has already been discovered by the surveyors of the route in fairly large quantities, and some of the diggings are being worked. The precious metal is for the most part as fine as dust and demands very highly perfected machinery for its successful exploitation. Other portions of the area being opened up by the railway are reported to be suitable for cattle raising.

"In the light of the fact that the operation of the Siberian Trans-Baikal and Circum-Baikal lines involves an annual deficit of twenty million rubles and that the Priamur Province generally



THE AMUR RAILWAY, AMUR RIVER, STEAMERS TIED UP FOR THE WINTER



IRKUTSK, THE CENTER OF RUSSIAN POWER IN ASIA

entails a further drain upon the exchequer, it would be foolishly optimistic to reject the evidence of those on the spot with reference to the economic prospects of the new Amur Railroad. These witnesses are often persons, as in the case of Mr. Panoff, in other respects supporters of the government and in no sense to be confounded with the kadets, social democrats and social revolutionaries, from whom pessimism might be anticipated, but who, for the most part, when they live in Eastern Siberia, are in favor for once of a government railway project from provincial and sectional rather than imperial motives.

"The consensus of disinterested opinion would therefore appear to warrant the conclusion that the determination of the Russian government to expedite the building of the line at a moment of unusual financial stringency is dictated, despite official assurances to the contrary, rather by strategical than economic considerations. It is a race in railroad construction. The rebuilding of the Antung-Mukden line, in particular, convinces most Russians that Russia cannot afford to dally with this question.

"Japan proposes to finish the work in two years, and with the completion of the bridge across the Yalu linking the Korean and South Manchurian railway systems she will have at her disposal a direct and unbroken line of communication virtually from the shores of Dai Nippon to the very heart of Manchuria, debouching on the flank of the sole Russian line which unites the Far East with Russia proper.

"Then, as one Russian paper writes, 'our Chinese road will lose the commercial significance preserved for it by the Portsmouth treaty. Should complications arise with Japan it can be cut at will by the Japanese advance guards freely conveyed by rail to this point. Thence the route is optional either to the east or west. In this manner Japan has securely strengthened herself on our flank and the road to the Primorsk region, where there is not a single hopeful point of support, is open. The transfer of the Fushun mines to the full ownership of Japan testifies to the fact that Japan stands upon firm ground and that a base for further operations is prepared for her.'

"Prone as is the typical Russian mind to analyze and disparage everything Russian, it behooves the outsider to qualify to some extent the gloomy forebodings of the critics I have

quoted. In spite of all the sins of omission and commission charged to the government, the fact remains that there is progress in Eastern Siberia palpable to those who visited the country immediately after the war and who visit it now.

"The population of such towns as Chita, Stretensk, Nerchinsk, Blagoveshchensk and Khabarovsk is steadily increasing; the general average of comfort and well being is far higher

for American capitalists and business men to devote more attention to the Amur and maritime provinces of Eastern Siberia with a view to the development of the vast natural wealth of the country. Coal, gold, silver, iron, lead, naphtha, lumber, the fisheries, the pelt industry and agriculture—all these branches should offer inducements to enterprising investors. That there are serious obstacles to be overcome cannot be denied, but when one notes what is being accomplished by the Germans in Eastern Siberia and Northern Manchuria it is difficult to resist the conclusion that we are losing opportunities.

"Withal the conviction forces itself that had the heritage of Eastern Siberia fallen to America or Great Britain, with its enormous potential resources, it would not now, after three hundred years of ownership, contain a population, both Russian and native, of only a million and a quarter, scattered over an area of one million four hundred thousand square versts, approximately equivalent to three Frances without the colonies. The cry of the 'old resident' (starozhi) of Siberia is that St. Petersburg should listen to the voice of those who live and labor in the land, as is the case under English and American colonial administration, whereas Russian Far Eastern questions are for the most part decided by the departments at St. Petersburg, which seem to be destitute of first hand knowledge of the needs of the region—as witness the abolition of the Vladivostok free port which was an unsolicited gift to Japanese Dairen."



AMUR RAILWAY: GOLD WASHING PLANT ON THE AMUR RIVER

than in European Russia; the foreigner is struck by the health and good looks of the rising generation; everywhere is manifested the popular zest for education, and the authorities, inadequately it may be, are encouraging immigration.

"I am convinced that with the construction of the Amur railway it should be worth while

SNUG HARBOR AT PORT BANGA

The Port Banga Lumber Company of Port Banga, Mindanao, has developed a snug harbor at its mill site and, with the addition of a lighthouse installed on the summit, it is easily and safely available to steamers entering and leaving the harbor at night. The company's dock is 150 feet in length with 20 feet of water at low tide alongside, and with the mill and yard close to the dock it makes the most desirable mill site in the Philippines. The harbor is snug with plenty of water and good anchorage. North German Lloyd steamers find no difficulty in entering the harbor and tying up at the dock, while the Compañia Maritima steamers call regularly twice each month.



BLAGOVESHCHENSK, THE METROPOLIS OF THE PRIMUR

RAILWAYS IN MONGOLIA

China's Ambitious Plans to Preserve and Develop this Vast Territory

With the completion of the Pekin-Kalgan Railway, opening up communication with the Mongolian borderlands, many new extensions to the line are being projected. If all the schemes are carried into effect, Kalgan will one day be one of the most important railway centres of the Empire. The right to build a railway across Mongolia from Kiachkta through Urga to Kalgan has long been a cherished dream of Russia, and her diplomats at Peking have many times urged China to grant the concession. Ten years ago the Russian railway program for the peaceful invasion of China included several ramifications to this central scheme, chief of which was a branch leaving Kiachkta crossing Mongolia, Shensi, and Szechuen, terminating at some point in connection with the proposed northern extension of the French Yunnan road at Chengtufu. This bold and seductive scheme was the natural outcome of the combination of Russian and French railway plans in Asia. Ten years ago such a plan had some hope of ultimate realization, to-day it must remain a dream, as aside from the enormous financial and engineering difficulties, China will never give her consent. Yet Russia has never entirely abandoned her original designs for the penetration of Chinese Central Asia.

RUSSIAN RAILWAY ACTIVITY.

The great Trans-Siberian road was still unfinished when the scheme for a southern or Central Asian parallel line was proposed. This line was to leave Orenberg and cross the Turgui country and the Kirghiz steppes in an almost due easterly direction to Barnaul in southeastern Tomsk, or within easy communication with Kobdo, in Chinese Mongolia. From Barnaul the line was to be carried still farther east, skirting the Mongolian border until a junction was made with the Trans-Siberian Road at Nijni Udinsk. The unproductiveness of the Turgai country and Kirghiz steppes prohibited the execution of the scheme and for some years the project has remained dormant. But almost coincident with the recent announcement of the scheme to double track the Trans-Siberian road comes the report from St. Petersburg that the Southern Siberian Railway Company has been organized for the purpose of constructing a line starting from Omsk and skirting the Irtysh River to Pavlodar, where one branch will continue to Semapalitinsk and another to Barnaul. The total length of the proposed road is over 750 miles and the cost is estimated at over £5,000,000. From a strategic viewpoint this will bring the Russians within a few days' march from Kobdo, the Chinese frontier post of North Western Mongolia, and at the same time open up an immensely fertile and valuable mineral country. With previous experience as a guide the Chinese Government naturally views such a scheme with some concern and



H. E. CHEN KUEI-LUNG

VICEROY OF CHIHLI, THE METROPOLITAN PROVINCE, PROMOTED FROM THE VICEROYALTY OF THE HU-KINANG, TO CHIHLI, ON THE DISMISSAL OF H. E. TUAN FANG



(Denniston & Sullivan, Photographers.)

THE ROAD TO LANCHOWFU: ACROSS THE LOESS REGION OF SHANSI



THE RUSSIAN OUTPOST COMMANDING THE ROAD TO KASHGAR, FORTIRKESHTAN, TURKESTAN

steps are being taken to have a preliminary reconnaissance made for a Chinese railway to extend from Kalgan into the threatened district. It is reported that a line traversing Mongolia from Kalgan, through Chahar to

Russian military railway and commercial activity along the Mongolian borders of the Empire has for many years past seriously alarmed the Peking authorities, and, as a remedy, many vague and visionary railway schemes have been proposed as the only way the distant provinces can be saved to the Empire. The Russian Central Asian military railway terminating at Andijan already threatens the province of Sinkiang or Chinese Turkestan, and as a consequence the Chinese frontier posts of Ilifu, Aksu and Kashgar have been heavily reinforced.

CHINESE PROJECTS.

A recent native report from Peking states as follows:

"The Minister to a certain country has addressed a long letter to the Central Government on the danger of Ili, citing instances to prove a certain Power's designs on that Dependency, and declaring that if the *laissez faire* of the officials be allowed to continue for another few years it will be worse than Manchuria."

To this constant danger of the remote provinces is traceable many of the railway schemes which find currency in Peking official circles and echoed in the native press. The following recent news items have their foundation in political scares:

"The President of the Board of Posts and Communications, after consultation with the Government, has decided to raise funds for the purpose of constructing a railway from Tih-hwa (Urumtsi) in Sinkiang to Kurun (Urga) in Mongolia and one from Ili via Tih-hwa to Lanchow (Kansu). He has wired the new Viceroy of Kansu to make the necessary investigations after he has taken over the seals of office."

"The Yuch'uanpu proposes to extend the Kalgan-Suiyuan Railway to Ili and also to connect it with the Loyang Tung-kuan Railway in Shansi."



A BRIDGE ON THE RUSSIAN CENTRAL-ASIAN RAILWAY

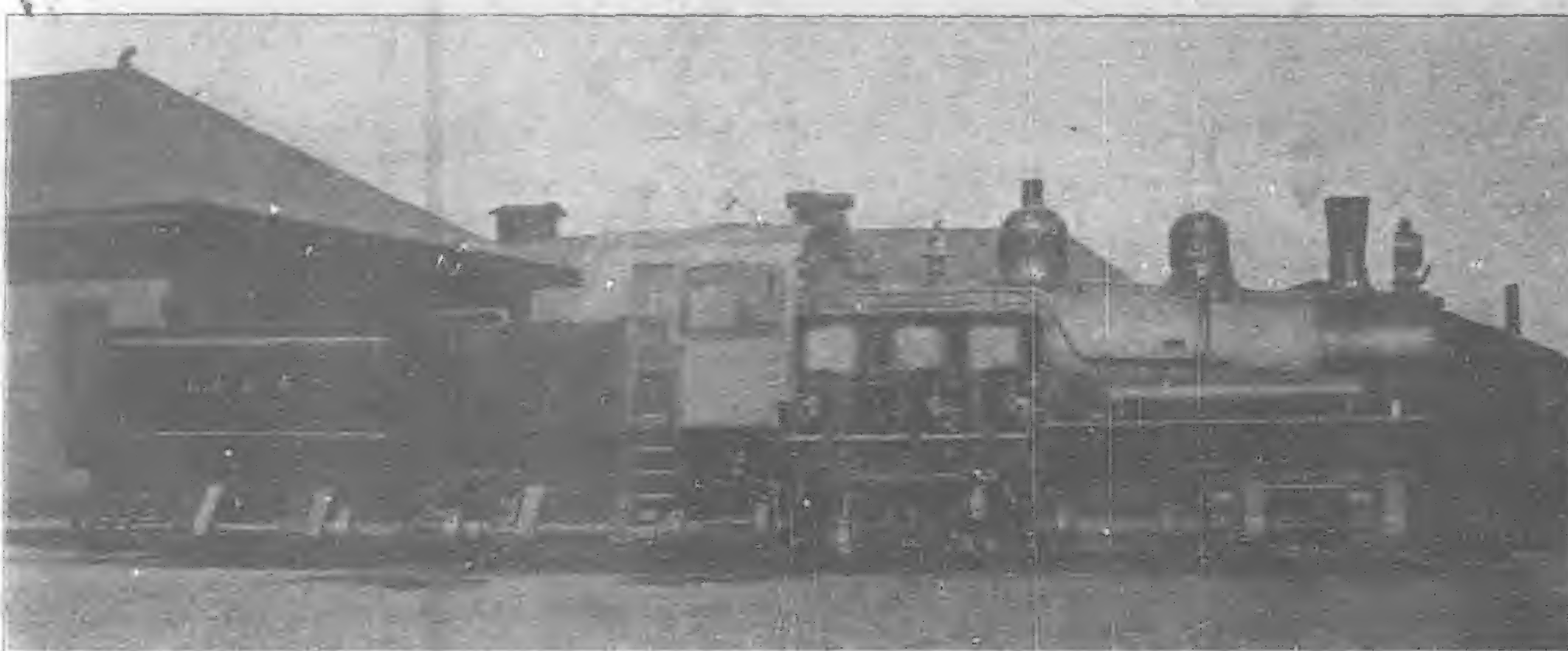
These extensive railway schemes are published in the Chinese papers as a matter of course, without comment, and no thought apparently given to cost or difficulties of construction. In these few items already noted, there are over 3,800 miles of railways to be constructed for strategic purposes.

	Miles.
Kalgan-Uliassutai Railway....	1,000
Urumtsi-Urga Railway.....	1,200
Ili-Lanchow Railway.....	1,600
	3,800

At a cost of \$40,000 gold per mile, the total expenditure would be \$152,000,000 which, spread over a period of ten years, would be over \$15,000,000 per annum. Such an expense could hardly be justified with the present state of the finances. So while there is little probability of the general scheme being carried into effect, there is evidence that the most important or the line to Ili, will be pushed ahead as rapidly as finances will permit.

KALGAN-SUIYUAN EXTENSION

The recently completed Kalgan road is to be extended via Tatungfu and Sopingfu to Suiyuan in the northwest of Shansi Province near the Mongolian border. The survey of this road has been completed. It will be about 230 miles long, and the estimates submitted to the Board of Communications places the cost at about Taels 17,560,000 or roughly \$50,000 to \$55,000 per mile. The necessary capital will be taken from the surplus profits of the Imperial Railways of North China in the same way as was done for the Peking-Kalgan road. The construction of this extension has already been



SHAY GEARED 125-TON LOCOMOTIVE, LIMA LOCOMOTIVE & MACHINE CO., IN USE ON THE PEKIN-KALGAN RAILWAY

Sairussu and thence to Uliassutai has received serious consideration and delegates appointed to survey and report on its feasibility. The distance is about 1,000 miles from Kalgan to Uliassutai.

"A Chinese telegram says that the Government intends to relieve the famine sufferers in Kansu by utilizing their services in building the railway from Kansu to Chinese Turkestan (Ili) and that the scheme will be carried out after Viceroy Chang Keng has assumed office."



ACROSS EASTERN MONGOLIA: CHINESE PONY PALANQUIN



THE ROADS OF SINKIANG: ACROSS THE TAKLA-MAKAN DESERT

authorized and it is expected that actual work will soon be commenced under the direction of H. E. Jeme Tien-yu. It is hoped to complete it in two years. From Sui-yuan is planned the extension to Urga, a distance of 600 miles across the Mongolian desert. Built under Chinese supervision this line should not be very costly, as there are no great engineering difficulties to overcome.

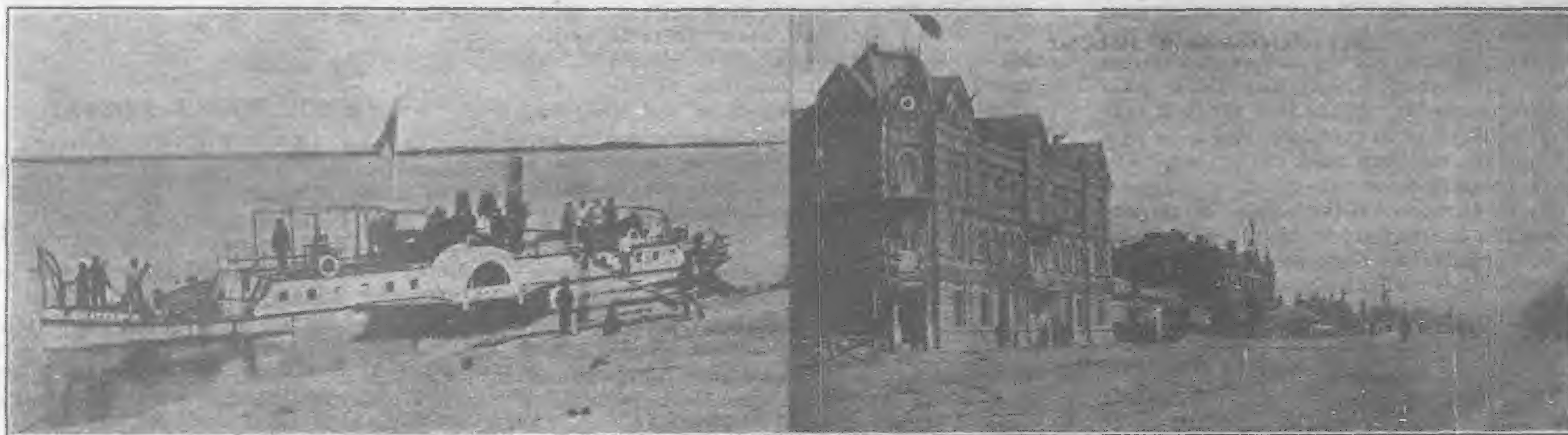
Consul-General Edward T. Williams, of Tientsin, recently furnished the following information concerning the proposed building of the Kalgan-Urga Railway. As the Kalgan line has been built with the surplus profits of the Pekin-Mukden line, it is proposed to employ future earnings of the latter line in the extension across Mongolia to the Siberian frontier. The Mongols are mostly nomads, and depend upon their flocks and herds. It has been estimated that 25,000 horses, 10,000 head of horned cattle, 250,000 sheep, 330,000 hides, and a considerable quantity of furs are exported every year from Eastern Mongolia, while from North-Western Mongolia as many as 70,000 horses, 30,000 camels, and 1,500,000 to 2,000,000 sheep are exported. With the completion of the railway to Kalgan the appearance of long trains of camels in the streets of Peking will become more rare, and as the line penetrates into Mon-

by well-sinking. Here is no remorseless sand-waste with its waves of moving sand such as are found to the south and west of the Altai and its eastern prolongation the Gurhan Saikhab, the range that may be looked upon as the backbone of the plateau, and which forms a rough dividing line between the Eastern and Western Gobi. The Eastern Gobi slopes from its marginal mountains to a depression in the centre, elevated only 2,400 feet above sea-level, probably the dry bottom of an ancient salt lake, into which the now dried-up watercourses, with which the ravines of the projecting rocky ridges that traverse the steppe are scored, drained at a time prior to the recent desiccation of the country.

South of this depression the land rises again to 5,400 feet, as the Alpine range is reached which limits the steppe in this direction of China. The ranges which wall in China on the north and are 100 to 150 miles in through-diameter are Alpine in character and contain many fertile valleys, all occupied by Chinese settlers; such valleys we find south of the frontier mart of Kalgan, 2,800 feet above the sea, built on the southern slope of the mountain range, through which breaks the narrow pass leading up by a farther ascent of 2,000 feet to the plateau which commences 10 miles to the north, the only road giving easy access, by a comparatively gentle descent to the wide Peking plain below. This descent from the plateau into the low-lying plain of Chihli, via Kalgan, is by the most gradually sloped and easily traversed of all the main roads leading from Mongolia strongly fortified by the Chinese; it is also

THE CENTRAL-ASIAN PROJECT

One of the most difficult and costly railway schemes entertained by the Chinese Government is the much discussed Kansu-Ili line. Many items are published in the native press from time to time, indicating there is something behind all the talk. The fact that Lanchow, the capital of Kansu province, is one of the most inaccessible cities of the Empire, and delivery of railway material to that point would entail enormous expense and delay, is apparently ignored by the Chinese. The proposed railway from Lanchow to Ili has always been considered by the average foreigner as a dream of the future to be built after the Pienlo Railway is extended on the Tungkwang, and thence to Sianfu, and from there to Lanchowfu. The distance from Honanfu, the present terminus of the Pienlo Line—through Tungkwang, Sianfu and Fenghsiangfu to Lanchowfu—is approximately 550 miles. The country traversed is a most difficult one for railroading and the provincial authori-



CHINESE EASTERN RAILWAY STEAMER PLYING ON SUNGARI RIVER BETWEEN HARBAROVSK ON THE AMUR

BUILDING ON AMUR STREET, HARBAROVSK

golia, more and more of the traffic will find its way by rail. Such a line will also do for Mongolia what our transcontinental lines have done for our Central and Western States. Few persons realise what a vast territory there is here for settlement and development. Its area embraces more than 1,300,000 square miles, and the population is not quite two to the square mile. The lands belong to various tribes of Mongols, each of which has its own chief and its own organization. The people are not unlike our Indians, though their culture, on the whole, is of a higher type, as is indicated, indeed, by their pastoral life. Chinese settlers are continually crowding into these territories and purchasing lands from the Mongols. New counties are continually being organized along the Chinese frontier, and the jurisdiction of the Chinese authorities being thus steadily extended into the dependency. The construction of the proposed railway will doubtless hasten the settlement of the country, the cultivation of its fertile valleys, and the exploitation of its extensive forests and its mines. Communication with Europe will also be facilitated, inasmuch as the connection with the Great Siberian Railway will be made not far from Lake Baikal, and the time between Peking and New York—now about twenty-five days via Moscow and London—will be reduced to about twenty-two or less.

THE TRANS-MONGOLIA RAILWAY

The Kiachta-Urga-Kalgan or Trans-Mongolian Line was originally conceived by Russia to serve her political and commercial designs, and although China now proposes to build the line within her own territory, Russia desires participation in the enterprise. The route has been partially surveyed and numerous reports submitted to Peking. The chief obstacle to its construction is the alleged lack of water on the Gobi desert. Mr. Archibald Little in his book on The Far East, however, states as follows:

The 200 miles wide stretch of undulating land along the northern border, which is traversed by the high road between Kiachta and Urga is distinguished by abundance of trees and water. But south of Urga, which is situated 4,200 feet above sea-level, the gravelly steppe begins, a steppe in part flooded with fragments of agate and chalcedony, and the confines of the Gobi are entered; the soil still supports scattered desert shrubs and water is obtainable

the route in which the transition from the rugged mountain rampart to the level grass-covered table-land is most striking and abrupt. The Peking plain which slopes seawards from the foot of the mountains at the imperceptible inclination of about one foot to the mile, abuts directly upon the cliffs of the barrier range, giving unmistakable evidence of these having once formed the sea-coast of the to-day still steadily narrowing gulf of Pechili.

While China is proposing to build the road, Russia is also preparing to push out a branch from the Trans-Siberian Line near Lake Baikal, to the frontier mart of Kiachta. The distance along the Selenga valley to Kiachta is only a little over 100 miles. The line would be a commercial success and promote the trade of Mongolia with Trans-Baikal.

The main road from Sui-yuan across Mongolia to Urga, is about 600 miles, and another 175 miles to the border at Kiachta. A rough estimate submitted to the Board of Communications calls for Taels 20,000,000 or approximately \$25,000 per mile, and six years time to construct the line beyond Sui-yuan to Urga. Under Chinese supervision this figure, while low, compares more than favorably with railway costs in other more difficult sections of the Empire. With a construction progress of 100 miles a year or six years to complete, this would entail an expenditure of about Taels 3,400,000 per annum.

It is reported that foreign capitalists are ready to loan the necessary funds for constructing this line, whenever China signifies her willingness to negotiate terms.

The extension of the Kalgan Road to Sui-yuan may therefore be accepted as the first step in China's railway program for the construction of three important trunk lines. The Kalgan-Kiachta or Trans-Mongolian and the Kalgan-Uliassutai or Central Mongolia roads have already been outlined. The third and most difficult, and from some points of view the most important, is undoubtedly the great Central Asian project or the North-Western trunk line through Kansu to Chinese Turkestan which has been approved by the Government.

ties and gentry show little enthusiasm in raising funds to construct the line.

The purpose of the central Government at Peking seems clearer and the dream of a Kansu-Ili line becomes more tangible when it is considered that the distance from Sui-yuan to Lanchowfu following the course of the great bend of the Yellow River is only about 600 miles, and through a country almost level and presenting no great engineering problems to overcome. The 600-mile road to Lanchow via Sui-yuan could be constructed at almost half the cost of a Tungkwang-Sianfu line, and its supervision remain entirely under the control of the Board of Communications, free from interference from the provincial gentry. So when we read that the Viceroy of the Shen-kang intends to utilize the famine sufferers in building the road to Ili, while some allowance must be made for exaggeration, the report or rumour may be accepted as an indication that some definite plan is being slowly welded into shape. The Viceroy at Lanchow has repeatedly memorialized the Throne about the importance of maintaining better communication with Ili, if the province of Sinkiang is to be saved to China. Ili is a long distance from Lanchowfu. The old trans-Asian caravan route from Lanchow to Ili over the Great Tien-shan North Road is over 1,500 miles. So to reach Ili by rail from Peking, the Chinese Government must extend the Kalgan-Suiyuan Railway about 2,100 miles at an expenditure of at least \$40,000 gold per mile or a total of \$84,000,000. The rate of progress on such a road must necessarily be slow, and 15 years at least would be necessary for its construction, or an annual expenditure of say \$6,000,000 gold.

In addition to the above schemes for the protection of her Mongolian and Turkestan borders must be added the project for the Eastern Mongolian or Chinchow Tsitsihar-Aigun Line, the history of which is dealt with in this issue in a separate article. This line will be 750 miles long and the estimated cost is \$30,-

000,000 gold or \$40,000 per mile. So the Chinese railway program in her dependencies, which the government seems committed to, is as follows:

	Miles.	Estimated cost.	Per mile U. S. Cy.
Kalgan-Suiyuan Line...	230	\$11,500,000	\$50,000
Sui-yuan-Urga.....	600	15,000,000	25,000
Urga-Kiachta.....	175	4,375,000	25,000
Sui-yuan-Lanchowfu Line.....	600	24,000,000	40,000
Lanchowfu-Ili Line.....	1500	60,000,000	40,000
*Sui-yuan Sair-ussu-Uliassutai Line.....	600	24,000,000	40,000
Uliassutai-Kobdo Line..	300	12,000,000	40,000
†Barkul-Uliassutai Line.....	400	16,000,000	40,000
Chinchowfu-Tsitsihar-Aigun Line.....	750	30,000,000	40,000
	5155	\$196,875,000

*The proposed Central Mongolian line to Uliassutai, and beyond to Kobdo, would undoubtedly branch off the Trans-Mongolia line to Urga, somewhere near Sairussu about 350 miles northwest of Sui-yuan.

†A connecting road between the Lanchow-Ili and Uliassutai lines would be greatly shortened by a road connecting the latter post with Barkul.

Without the aid of foreign loans and relying on the present state of China's finances, at least 20 years would be occupied in carrying out this extensive program. The key to the entire system is the extension of the Kalgan Road to Sui-yuan and Kweihaucheng. At the best this will take two or three years to complete, and from here the Lanchow and Urga lines will extend. The rate of progress from this point will depend entirely on finances. If the surplus earnings of the Imperial Railways of North China are to be earmarked solely for these roads, progress will be very slow. Foreign loans are necessary and it appears that despite the unsatisfactory commercial side of the undertakings, such capital can be secured on favorable terms to build these lines.

The *Times* correspondent in a recent letter on the Kalgan Railway, and colonization of Mongolia, says: "No race has greater powers of colonization than the Chinese and nowhere have their powers been displayed more strikingly than in their extension into the pasture lands of Mongolia. Along a front several hundred miles in length the Chinese are moving northwards into the Mongol pasture lands at a rate that has been estimated at four miles per annum. Mongols cannot resist this pacific invasion of a people intellectually their superiors, who bring with them their industrious habits, their farming implements, and their skill in husbandry. Where a few nomad Mongols earned a scanty subsistence with their herds on untilled soil, now thousands of Chinese are living. Nomadic life is disappearing and agricultural life is taking its place. Villages are being built, schools erected, and the whole Chinese Government is seen at its best in encouraging this agricultural

expansion. Land is given at merely nominal prices. Every encouragement is given to the husbandman and the results are remarkable, for cultivation causes the soil to retain its warmth so that seasons are modified and climate and rainfall undergo change. The time, indeed, seems not remote when the Gobi and Ordos deserts will be invaded and reclaimed. The Kalgan railway and the construction of the projected extension to Kweihauch'eng will give additional encouragement and assistance to Chinese colonization in Mongolia."

So it is not alone from political considerations that China is moved to push her railways into Mongolia. Equally important to her economic welfare is the opening up of new country for her rapidly multiplying millions. Judging from experience in other parts of the world, and even in Manchuria, it may be taken for granted that the influx of settlers from the over populated districts of the larger provinces, into the newly opened districts of Mongolia, will quickly make any new railway a commercial success, and source of revenue to the Government. What may seem now to be an unprofitable undertaking, in a few years would amply justify the expenditure. Of all countries in the world, China needs room to expand in, and Mongolia, Sinkiang and Tibet must be preserved to her for this purpose, or in another quarter of a century, her millions will demand a domicile in parts of the world now barred to their entrance.

The sudden interest displayed by the Chinese authorities in railways to Jehol, and beyond to the Imperial Hunting Park, is evidently traceable to the desire of British interests to give effect to the clause of the additional Agreement of 1902, which concedes to them the right to build a chord line from Peking to Tungshan.

This reads as follows:

"Art. 5. Under Clause 3 of the Agreement dated October 10th, 1898, it is stipulated that the construction of branch lines or extensions shall be undertaken by the Northern Railways Administration, and the intent of this stipulation is hereby confirmed in order to secure the existing interests of the railways. It is therefore agreed that the construction of any new railway within a distance of eighty miles of any portion of the existing lines, for which concessions have not been signed previous to the date of this Agreement shall be undertaken by the Administrators-General of the Imperial Northern Railways.

Such lines as the following:

A northern line from Peking or Fengtai to the Great Wall;
A chord line from Tungchow to Kuyeh or Tongshan;
A line from Tientsin to Paoting Fu;
shall not, in view of the interests of the Imperial Northern Railways, be allowed to fall into other hands."

A month or so ago Peking dispatches in the native papers stated that as foreign applications for the contract for construction of a

railway from Chinwangtao to Chuyungkuan had been refused by the Waiwupu, the Yuch'uanpu has made up its mind to extend the Kalgan line to Chinwangtao, to be a branch line to the Kalgan-Peking line, and Imperial sanction will shortly be obtained for the project.

This would imply that British influences have been at work to secure the construction of the line in compliance with the agreement, but China has the right to build it herself, and the same rule will apply as with the Kalgan line.

YIN CHING-CHOW BRANCH OF THE PEKIN-KALGAN RAILWAY

In addition to the main extensions to the Kalgan Road, the Board of Communications proposes to construct a branch line from the Hwaihai station to Yin Ching-chow, a distance of 40 li or 14 miles. This will facilitate the transport of cereals from that district and prove a profitable enterprise.

JEHOL BRANCH RAILWAY

Another offshoot of the Kalgan Railway has recently received considerable attention from the Board of Communications. This line will run from Peking or some point on the Kalgan Railway to (Chengtsefu) Jehol, the capital of Inner Mongolia, situated in the centre of an extensive mineral and timber district. The Military Governor of Jehol has strongly urged the construction of this line as a military necessity. A recent news item from Peking states: that "the construction of a railway from Peking or Kalgan to Jehol has been mooted by the Yuch'uan-pu for some time without any definite conclusion having been arrived at. More recently, however, as a foreign power showed desire for the place, in view of its fertility and richness in minerals, President Hsu Shih-ch'ang has again considered the question. He will consult with H. E. Ting Chieh, late Assistant Military Governor at Jehol, before beginning the construction of the line, which will probably be taken in hand next year."

The distance from Peking to Jehol is about 100 miles. At the same time the Military Lieutenant Governor of Jehol wired to the Board of Agriculture, Works and Commerce and the Board of Communications to consult about a 600 li light railway to be built between the forest of the Imperial Hunting Reserves and the town so as to give facilities for the sale of timber, a fund to be provided by the Viceroy of Chihli.



MAP OF PROVINCE OF SINKIANG OR CHINESE TURKESTAN SHOWING CARAVAN ROUTES AND POSSIBLE RAILWAY LINES

SZECHUEN-TIBET RAILWAY PROJECT



ON THE BORDERS OF TIBET

(China Inland Mission.)

Shanghai, March 1st, 1910.—The advance of the Chinese Army into Tibet, and the hurried flight of the Dailai Lama from Lhasa to a safe refuge in India, brings into prominence the projected railway from Chengtufu to Tibet. The Chinese have been operating for a long time to subdue the unruly Lamas and bring the country under Chinese rule. Each successive Viceroy of Szechuen has had his time fully occupied in warlike operations against the Independent Lolo tribes and the truculent Tibetan lamas. Instead of a sinecure, the post at Chengtufu has called for considerable activity, and the maintenance of an army and cost of operations has consumed a large share of the provincial revenues. In fact the subjugation of the independent tribes of the Chia-Kung and the Tibetan frontier campaign has been a continual drain on the revenues of Szechuen, and advantage has been often taken of this fact by the Viceroys to absolve them from making the regular remittances to Peking. Under the last Viceroy, H. E. Hsi-Liang, now filling the post at Mukden, the outline of a campaign to regain complete ascendancy over the border lands and Tibet was formulated. Coincident with the recruiting and organization of a modern military force, the plans for a large arsenal were drawn up. Taotai Key Tsu-yi, a graduated Civil and Mechanical Engineer from the Troy Polytechnic Institute, was appointed by Viceroy Hsi to visit Europe and select the plant. The order was placed with the well known firm of Schuchardt & Schutte. Machinery for the manufacture of rifles and cartridges, machine and mountain guns, and a complete powder factory were ordered, and the plant has only recently been turned over by the contractors and accepted by Viceroy Chao.

While Hsi-Liang was Viceroy at Chengtufu, he had under him as Taotai of the Mantze Marches, located at Yachowfu, Chao-Ehr-feng, a Chinese Bannerman. Yachow is the last Chinese town of importance in the province of Szechuen on the high road to Tibet, and the then administrative outpost of Chinese authority. Chao identified himself with the development of the province, and was appointed director-general of the native company formed for the construction of the Szechuen-Hupeh Railway, and when Hsi-Liang was ordered to Yunnan, the ordinary operation of Chinese official procedure was set aside, and the Taotai of Yachow-fu was appointed Acting Viceroy over the heads of the Provincial Treasurer and Judge. His brother Chao Ehr-hsun, the last

incumbent of the post of Tartar General of Mukden, was appointed Viceroy of Szechuen, and at the same time Chao-Ehr-feng was appointed Frontier Commissioner and Resident in Tibet, with the rank of President of a Board. The latter's knowledge of the country and his long tenure of office on the Tibetan borderland well qualified him for the new post, and it is a striking example of China's progress, that the authorities in Peking should select and appoint a really suitable and competent official for this arduous work. Viceroy Chao brought with him many progressive ideas, and proceeded to carry out in Szechuen what he had initiated in Manchuria. As a result many new enterprises have been floated under native control, and an impetus given to the improvement of transportation. The Szechuen-Hankow Railway connecting Chengtufu with Ichang has been started, without the aid of foreign capital, and the Szechuen gentry have gone beyond the limits of

their province and contracted to construct with their own funds that part of the line in Hupeh province from the Szechuen boundary to Ichang, a distance of approximately 75 miles. It is only natural that Chao Ehr-feng, in his operations against the outer tribes and his endeavors to mobilize a frontier force and prepare the expedition for the subjugation of the Lamas in the interior of Tibet, would turn his thoughts towards a railway from Chengtufu over the mountain ranges to Bat'ang. And when it is remembered that his expedition has been delayed in starting an active forward movement for over a year and he received many urgent commands from Peking to make haste with his task, and subjected to much adverse criticism for his apparent want of courage, it can be readily understood that he has defended his actions on the score of transportation difficulties, and urgently recommended the construction of a railway from Chengtufu to Tibet. In this he received the indorsement of his brother, Viceroy Chao. And so the Peking authorities without more ado authorized the Viceroy to go ahead and build the line. The distance from Chengtufu, the base of operations, to the frontier posts at Batang where the military force was being mobilized, is only about 350 miles, and from there on to Lhasa, another stretch of 500 miles, and the country is undoubtedly the best in the world for the play of the highest engineering skill. But according to the naive Chinese reports, in pursuance of instructions received from Peking to build the line from Szechuen right through to Lhasa, Viceroy Chao and his brother, Resident Chao, took counsel together, and found that a preliminary estimate for the scheme was only Tael 30,000,000, and on this account it could not be carried out. This is only a cost of about \$35,000 gold per mile, for a few miles of tunnels, a score or so of Zambesi Bridges and other minor engineering difficulties. However, this expenditure was beyond the capacity of Szechuen and it was proposed to go ahead slowly and build the line as far as Tachienlu at first, and then extend it slowly by stages from the profits of this section. As an after thought the native report concludes with the remark that "engineers and surveyors have been sent out to survey the line before beginning operations." The matter was, however, a serious one for Their Excellencies Chao, and also important to the best interests of the Imperial Government, and has therefore, been rescued



SZECHUEN-HANKOW RY.: VIEW OF RAILWAY CONSTRUCTION AT ICHANG



THE NEW ARSENAL AT CHENGTFU

from a ridiculous position, and elevated to one of great moment to the state. Viceroy Chao advised the Peking officials that Tael 30,000,000 could not be raised in Szechuen and suggested that the line be built by sections, and the Yuchuanpu was thereupon ordered to appoint surveyors to map out the route. The surveyors are now at work beyond Chengtufu. But Resident Chao, having charge of the military operations, and with a reputation at stake, and the national honor resting on him, could brook no delay in the matter, and proposed that a joint American and German Loan be contracted to hasten the work. As the projected road may not be self-supporting, the Imperial Government has decided to await the result of proper surveys and investigations, before discussing a foreign loan. And so the matter rests for the present. Resident Chao and his modern drilled troops have taken the war path, filled the Lamas with the fear of Confucius, and driven the reincarnated Buddha to a safe asylum under the protection of the Viceroy of India. With the country of the Lamas under subjection, and the authority of the Huangti recognized throughout the land, Resident Chao's solicitude for a railway to Lhasa may relax. But the scheme must sooner or later be carried into execution, if China is to retain control of Tibet. Fifty million taels or \$30,000,000 gold is a small sum to pay for the retention of Tibet, and it is safe to assume that within a few years active work will be in progress on the Chengtu-Tachienlu-Batang sections.

"If British trade ever adopts this track we shall be delighted and astounded in about equal proportions. By piercing half a dozen Mont Cenis tunnels and erecting a few Menai bridges, the road from Burma to Yunnanfu could doubtless be much improved." The remark of M. Baber, quoted by Major Davies in his book on "Yunnan" with only a change of localities, applies with equal force to the proposed line into Tibet.

The main road from China into Tibet, over which passes the traffic, and along which the Chinese military posts are established is the great highway leaving Chengtu, and passing through Yachowfu, Tachienlu, Hokow, Litang, Batang, and thence westward over the mountain ranges to Tibet.

Starting from Chengtufu with an elevation of 1,700 ft, the road follows the Min River valley down to Kia-ting fu, a distance of about 80 miles; and then up the valley of the Ya River to Yachowfu distant 60 miles. There is another shorter route over the foothills from Chengtu to Yachowfu of about 100 miles. At Yachowfu the real difficulties of the way commence. Starting with an elevation of 2,500 at Yachowfu the road ascends the valley of a swift mountain stream, and for the first 35 miles rises to 4,000 ft., and in the next 15 miles it crosses the Siang Ling range at an elevation of 16,100 feet in seven miles to the valley of the Tatung River at Lu ting Chiao. Here the torrential river is crossed by the famous suspension bridge built

over 50 years ago, and the road ascends the valley along precipitous cliffs to Wa Szekow, and ascends the ravine at this place to Ta Chien lu, rising 3,000 ft. in 12 miles.

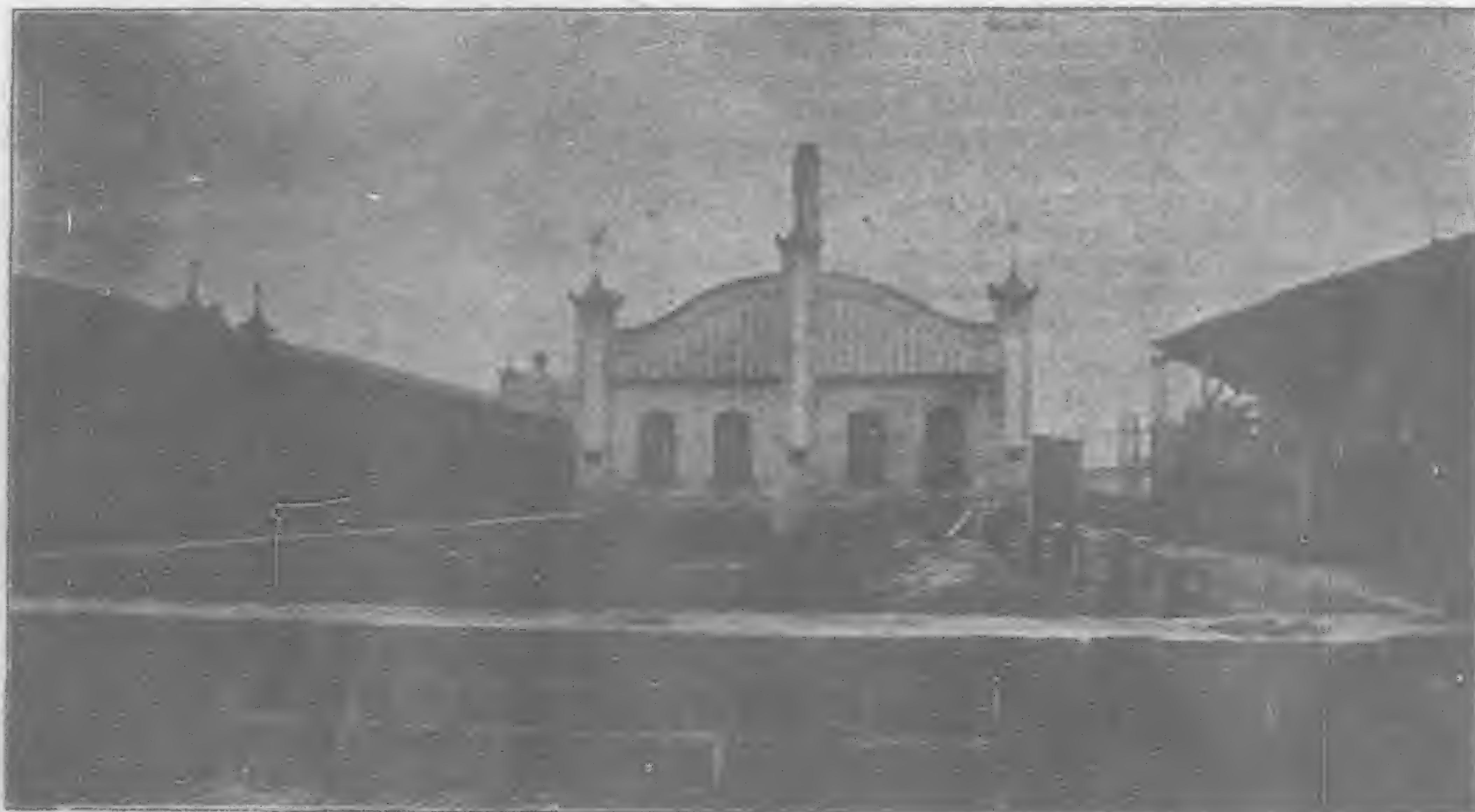
From Tachienlu at an elevation of 8,400 feet the road makes a steep ascent of 7,000 feet over the Gi-la pass, in a distance of about 15 miles, and from here to the Hokow ferry over the Ya lung River there is a comparatively easy stretch with only one low pass. From Hokow westward to Litang there is a succession of high passes. And after leaving Hokow the road again ascends 6,000 ft. in 17 miles, and then follows the slopes of the range, about 80 miles west to Batang. The mountains on either side rise to an elevation of 16,000 to 20,000 ft. After leaving Batang there is also a succession of high ranges and deep valleys to be negotiated before the road strikes fairly even country on the slope downward towards Lhasa.

If this road is ever built, the estimate of Major Davies for the Yunnan Line of £15,000 to £20,000 per mile of meter gauge road will come nearer the mark than the reported Chinese preliminary estimate of £7,000. The French meter gauge Yunnan road cost over £12,000 per mile, and with the increased difficulties of the Tibetan road, the cost will not fall short of Major Davies' figures.

Mr. Archibald Little in his work on the Far East says:

"The easiest road by which to enter Tibet from the east is that over which the traffic with China passes and that by which Chinese armies have repeatedly invaded and conquered the country, and along which Chinese military

posts are established to-day; that is, the great road from Chengtu, the capital of the province of Szechuen, which leads through Tarchendo, Litang and Batang to Lhasa; this road, after crossing the Min river at Kiating, leads up the valley of the Ya to the Chinese prefectural city of Yachow. In the beautiful Yachow valley is grown the shrub which provides the Tibetans with one of their chief necessities of life—tea—which is here pressed into bricks and carried by toiling coolies over three mountain passes, up to 10,000 feet in height, to Tarchendo. Yachow lies at the foot of the Siang-ling, an outwork of the high Tibetan barrier, over which leads the first of these three passes. The Siang-ling or Elephant range (so named in memory of Pu-hien, who carried the sacred books of Buddha from India to China over this pass on the back of an elephant) forms the first of the mountain barriers that separate China from Tibet, and which, up to the time of Kienlung's conquests in the eighteenth century, formed the political barrier as well. Crossing two more passes in the barrier ranges, the road traverses the swift-flowing Tatung river by the famous suspension bridge of Lu-ting Chiao (Kiaking, 1796-1821), built in Taokwang's reign (1821-51), and enters the Ta-hsueh-shan, the Snow range; the great girdling rampart of the Tibetan tableland, by the ravine of Wa-sze-kou (tiled roof monastery), down which flows the impetuous river of Tarchendo, which here discharges into the Tatung after falling 3,000 feet in a distance of twenty miles. The building of the bridge at Lu-ting greatly facilitated the intercourse between China and Tibet, the Tatung river being otherwise impassable in the rainy season, which prevails from May to October and is here very pronounced, while in winter, when the rivers are ferryable, the passes beyond are closed by snow. The rain-clouds from the China Sea are driven by the south-west monsoon against the flanks of the snow range that lines the right bank of the Tatung, and, rising up them, are there relieved of their moisture, leaving little or nothing for the thirsty tableland beyond. The heavy precipitation of this region, coupled with the fact that, from Lu-ting Chiao to its mouth in the Min at Kiating, the Tatung river, here a stream 100 yards wide and six to ten feet deep, falls 3,000 feet in about 100 miles, sufficiently accounts for there being neither ford nor ferry across it from below the mouth of its copious tributary the Tarchendo at Wa-sze-kou until it quits the Tibetan border fifty miles lower down. Here, at a place called Kinho-kou, it unites with the Kin river, and, changing its course from south to east, forms the northern frontier of the independent Lolo country, that extends hence to the banks of the Kinsha river in the south. The "Snow Range" is practically, by way of many intervening folds to the north of Assam and the Burmese "Kachin" country, a north-eastern extension



ONE OF THE WINGS OF THE NEW ARSENAL AT CHENGTFU

THE MARCHES OF THE MANTZE*



TAOTAI KEY TSU YI,

EDUCATED IN AMERICA, 1883, AS CIVIL AND MECHANICAL ENGINEER, PURCHASED THE MACHINERY AND INSTALLED THE STEEL PLANT IN KWRICHOW PROVINCE, AND ACTED AS ITS MANAGER FOR A NUMBER OF YEARS, ALSO SELECTED AND PURCHASED THE PLANT FOR THE CHENG TU ARSENAL, NOW IN CHARGE OF THE MINT AND ELECTRIC LIGHT WORKS AT MUKDEN

One of the most authoritative and interesting descriptions of the Tibetan country, between Tatsienlu and Batang, is to be found in the book, entitled "The Marches of the Mantze," written by Mr. J. H. Edgar of the China Inland Mission, stationed in this district. In view of the great interest attached to this region at present, owing to the sudden activity of the Chinese troops, Mr. Edgar's book should be widely read as his narrative throws considerable light on the situation. With permission of the China Inland Mission, we reproduce the following extracts:

"The Marches of the Mantze" is a term which may fittingly be applied to that large tract of country in which Tatsienlu, Batang, and Siang-chung are situated to the west of Szechuen. From east to west averaging about 500 miles,

*The Marches of the Mantze, by J. H. Edgar, Missionary in the Tibetan Border, with a preface by Cecil Polhill. Published by the China Inland Mission. Price .75 Mex.

and from north to south somewhat more, it consists on the whole of high, treeless plateaux from 12,000 to 14,000 feet above sea-level, surrounded by high ranges from 17,000 to 20,000 feet.

"The people inhabiting the Marches are of Tibetan descent, and without exception speak the language of this people. Here also are noticed some religious instincts, the dislike of foreign rule, the nomadic and predatory habits, the tribal form of government, with polyandry and suggestions of a former matriarchy, a disregard of cleanliness, a love of ornaments, and peculiar diet which characterises the whole Tibetan race.

"This wild land has always resisted Chinese pretensions. Expeditions have devastated it again and again; various forms of government have been employed more or less favourable to Peking; and schemes to colonise it have proved disastrous. It is a matter of history that it has insulted and killed China's high officials; those paltry regions have arrogantly defied China for years; and native chiefs, believed to be loyal agents, have, in the evil day, proved traitorous. But many think what has happened in the past will be an index to the future, and that the wild Marches will continue to exasperate and perplex China. To this day, be it noted, the regions of Chantui, Sanai, Linkasi, and other places are either directly under Lhasa, or remain, like Derge, practically independent of either that centre or Peking.

"The roads through the Marches and the means for transport are peculiar. The pedestrian, so common on the plain, and the strings of heavily burdened coolies or stolid carriers, are unknown west of Tatsienlu, and the traveller and his baggage are at the mercy of the ungroomed and often unreliable animals of the Tibetans. A look at the map of the Marches will explain the change. The official road to Lhasa passes along the northern border of the Marches, the rivers of which are very numerous. The rivers flowing south and the road going west, the traveller is not only near the watershed of a great river system, but is continually dipping into the valleys of the above rivers and crossing the passes of the mountains which divide them. The road through the Marches is only once—and that in the valley of the Yalong—below 12,500 feet, while twelve passes, not one of which is under 14,500 feet, must be crossed!

"Few who have not visited the Marches will understand what a prodigious task the administration of Tibet really is, and it will no doubt surprise many to know that the multitudinous officials and suites, changing once in three years for reasons both humane and imperial, means a literal stream of ingoing and outgoing officials, soldiers, couriers, and tribute bearers connected



THE NEW ARSENAL, AT CHENG TUFU: SMALL ARMS MACHINE ROOM



POWDER FACTORY AT CHENG TUFU

with the Tibetan administration. And on the whole China has made arrangements to overcome the difficulties of travel in one of the highest thoroughfares in the world, in principle eminently satisfactory, and by no means as unfair as generally supposed.

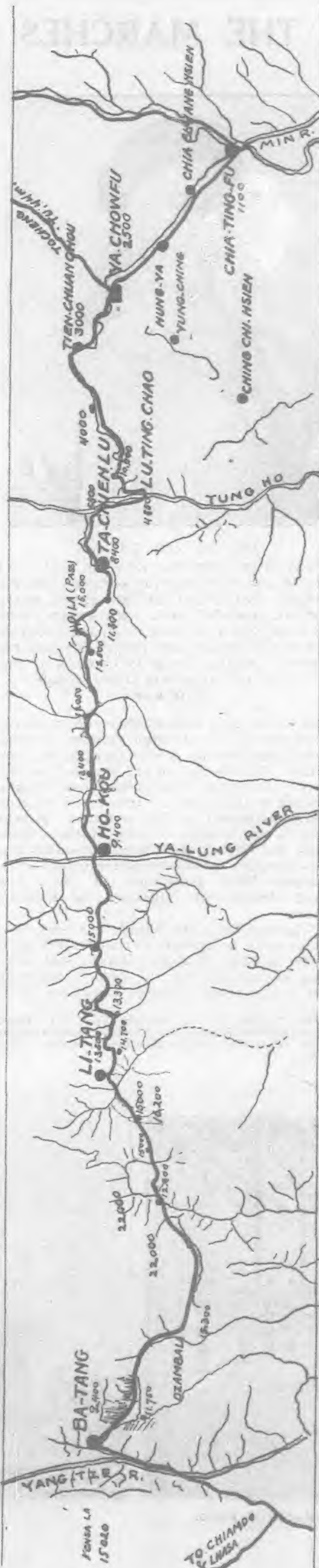
"About three years ago a serious rebellion agitated the whole region west of Tatsienlu, and as it was to mark the beginning of a new era in the Marches, it is worth examination in some detail. It is relatively correct to say that the rebellion had been simmering for many years. The abuse of the socage system, arrogance of the Lamas, avarice of the native chiefs, and the cruelty of the Chinese had caused widespread dissatisfaction among the people in districts abutting on the main roads.

"But more serious forces were at work. When the writer arrived at Tatsienlu in 1902, Russian influence was paramount at Lhasa. Dorjief, an educated Russian Buriat, had so gained the ear of the Dalai Lama that a secret treaty had been signed favourable to Russia, and preparations were being made by Tibet to cast off the yoke of China. Both England and China were alarmed, and the former demanded a settlement of outstanding questions affecting her Indian border. But the Tibetans treated the demands with such contempt that an expedition was despatched to demand a settlement at Lhasa if necessary. After weary months of fruitless waiting, and often sharp fighting, the capital of Buddhism was entered only to find that the Dalai Lama and Dorjief had fled towards Urga. An agreement, however, more or less satisfactory, was signed by some authority in Tibet, and Colonel Younghusband returned to India.

"In 1903 the powerful Lamasery at Litang openly defied China and for some time it was uncertain whether the local chiefs and the Chantui confederacy would join with them. However, owing to the prompt and courageous action of Sub-Prefect Liu at Tatsienlu, the clique suffered a severe blow by an attack on the Lamasery in which the Lamas were defeated and the Abbot with some of his relatives summarily beheaded. About the same time, also according to a persistent rumour, Batang, Litang, and Chantui had a secret agreement in which throwing off China's yoke and influence was aimed at. In 1904, owing to a grant of mining rights in the sub-chieftaincy of Kata, the opportunity for action seemed imminent, but Chantui retired from the union and the forces of China were allowed to march on Tailang and demolish the famous Lamasery unopposed.

"But at last a mistaken policy at Peking and the lack of tact displayed by a leading official were the sparks which exploded the magazines of Tibetan discontent. Feng, a Manchurian, received appointment as 'Deputy Imperial Commissioner of Tibetan Affairs,' with instructions to reside partly at Batang and partly in Chamdo. This arrangement was very unpopular, inasmuch as it threatened to interfere with the freedom of the native chiefs. But when Feng, shortly after his arrival at Batang, included in his policy a scheme for reducing the power and population of the Lamaseries, priests and people were both against the Government. At the end of 1904 the crisis was so acute that the Commissioner Feng deemed it safer to retire to Tatsienlu. But he had only proceeded ten li beyond Batang, when thousands of ambushed Tibetans surrounded the party of fifty men and exterminated them without distinction of race or rank. Then the rebels, returning to Batang, drove out the Chinese and occupied the city for nearly four months. Among those killed was a Roman Catholic priest and five converts.

"News of the rebellion soon reached Chengtu and a punitive expedition under General Ma was organized immediately, and arriving at Batang on the 24th of the sixth month, recaptured the city, executed the two chiefs, and set an expedition to exterminate the inhabitants of Chihstuen, who were more directly concerned in the death of H. E. Feng. It was the intention of the Chinese General to first sack and then destroy the huge Lamasery of Tinglinsze, but the Lamas forestalled him by themselves burning the wonderful building and the bridge over the Chihstuen River, and fleeing with the temple treasures to the inaccessible mountains of Sanai. The abbot, however, was laterly given up by the Chihstuen natives and executed



SKETCH MAP OF THE GREAT TIBETAN ROAD ACROSS THE MANTZE MARCHES FROM YA-CHOWFU TO BATANG

as a rebel of the Chinese Empire. At Siang-cheng operations dragged on until the 4th intercalary month of the 32nd year of Kwang Hsu (1906), and it was not until the capture of Yenching in the 12th month of the same year that the war was brought to a close.

"The outcome of the rebellion was not only startling because the power of Lamaism was broken and the old form of native government discarded, but also on account of the fact that China is full of plans for the reorganization of the conquered regions. Not only are the strategic centres garrisoned with troops and officials appointed, but the conditions of travel are improved, a telegraph terminates at Batang, and every inducement is offered to Chinese to cultivate the waste lands and work the mineral deposits of the country.

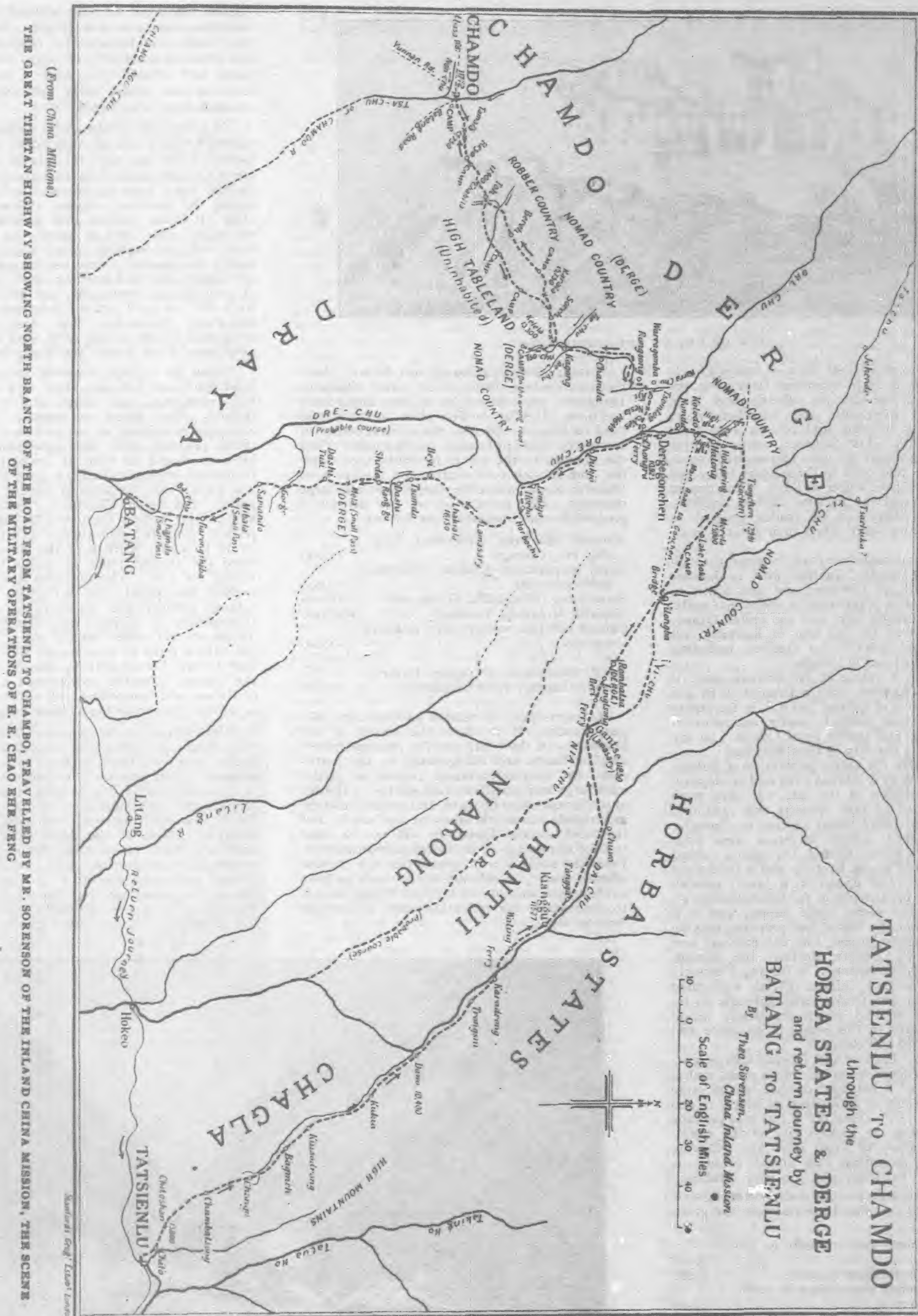
"By comparing conditions now obtaining with those observed by the writer in 1903 an idea of H. E. Chao's influence in the Marches may be gathered. The condition of Litang, for instance, in those days was by no means reassuring. The Lamas, although lately punished by the Chinese forces, were truculent and unfriendly, and the native chiefs endured the Chinese because of their inability to oust them. Brigands thronged the mountains, and the great regions south of Litang were closed to Chinese and foreigners alike; and in the city, among officials, traders and soldiers, the fear of the Lamas had taken the place of the fear of God. But revisiting the region again after three years the change is really remarkable. Then all was chaos and uncertainty; now order and confidence in Chinese rule is manifest everywhere. This is largely due to the humiliation of the Lamas. Although the Litang colony has not suffered, the haughty and defiant confederacies at Batang and Siangcheng have been broken up, the temples sacked and destroyed, and the Lamas killed or disbanded. And there is a feeling at Litang that China would make no exception in this region if circumstances demanded it. Again in Litang and Batang the native rulers have come to grief, the latter two suffering the death penalty for high treason, and the former being deposed forever. One is now a fugitive in Tibet, and one died by his own hand while on his way to Chengtu.

"There is no doubt that the people recognize that the strong arm of China has done all this, and rebellion is no part of the Tibetan's programme. But in case they might forget, China has placed a camp of one thousand men in the city under a Tao-tai, who drills them daily according to foreign methods. Moreover, this body of men attends to many details which now make Litang both pleasant and safe to live in. Bodies of men, for instance, patrol the streets demanding both orderly and decorous behaviours. They are also concerned with a policy for the extirpation of brigands, and in this respect alone have done an important work. Whole regions formerly infested by these picturesque but inconvenient gentry are now quite safe. On the awful Hwangtukung, 16,000 feet above the sea-level, companies of soldiers from the Litang camp spent the winter in order that the district might be free from the road agents.

"Now the outcome of all this is a confidence in the Government, which is highly beneficial to the Chinese and Tibetans. Business is increasing rapidly; trees are being planted in the waste lands; telegraph communication connects the city with Peking; and the Roman Catholics have bought buildings for missionary purposes. All this suggests that Litang has entered a new era—an era with orderly government, uninfluenced by Lamaism.

"It was much the same at Batang. In 1903 China was ignored or insulted by Lamas and Tusi (native chiefs) alike. Now the Lamasery is burnt and the order of the native chiefs extinguished for ever. Moreover, China aims at ruling the turbulent people directly. The appointment of city elders, the erection of schools for the people, and attempts at colonization indicate that China will endeavour for many years to assert her authority and inculcate her principles.

"In dealing with the Mantze Marches, three places must be supremely important, and a fourth indirectly so, viz., Tatsienlu, Litang, Batang, and Siangcheng. Tatsienlu is at the extreme east of the Marches, and is a political and commercial centre of primary importance.



It is the *Ultima Thule* of China and Tibet, where a thriving trade is done in the wares of both countries. Moreover, it is the residence of the chief of Chagla, a quasi-independent

kinglet with jurisdiction in other states more distant from China.

"Tatsienlu, apart from being the centre of the Chagla region which borders on Lengpien,

Shenpien, Tsali, Meilo, Litang, Chantui, Kata, Badi, Bawang, Meokong, Muping, and Yutong, is also the starting point of two main roads to Lhasa, and one also to the regions of Ta and Siaokin.



VIEW OF ONE OF THE LAMASERIES

"Hokow is situated at the west end of Chagla and controls a very important ferry over the Yalong. All the interior officials and large caravans of merchants and travellers must perforce pass through and remain some time in its vicinity. For instance, once in three years two Ambans go into Lhasa with enormous trains, and once in three years two come out laden with the wares of Tibet. And during the same period the various officials, ordinary and extraordinary, of all grades proceed to their posts and retire when their term is completed.

"Hokow commands four roads: one east through Chagla to Tatsienlu; another west to Litang; a third north to Chantui; and one south to Meilo. It has a population of about 300 souls; 200 on the Chagla side, and 100 under Litang. The valley east (to the foot of Kazhila) will have a population of 100 families, including the senior headman of Chagla.

"Batang is a village at the extreme west of the Mantze Marches, with a population of 400 families. West of Litang, 520 li, it is the centre of an important district, partly administered from Peking, and partly from Lhasa. In my diary of 1903 the city is thus described:

"Until lately the native population of Batang was controlled by a Tibetan chief and his deputy. At the conclusion of the late war they were deemed guilty of high treason and executed, their families being taken captive to Chengtu. The head chief, whose ancestors were from Yunnan, a Chinese named Lo, was a second official of the Chinese Empire, and a third-class native ruler. His daughter, a pretty maiden of sixteen, is in captivity in the Commissioner's residence. She seems quite happy, and it is rumoured that the official has proposed making her his daughter-in-law, but the mother, now a captive in Chengtu, declines the honour. At present the government of Batang is directly under a fifth-class Chinese official, who must perforce hear and decide cases through an interpreter, a method which practically leaves the community in the hands of dissolute and untrustworthy half-castes.

"Litang is a Chinese and Tibetan village nestling in the corner of an enormous plain, and is the capital of a nomadic district of the same name. Situated at an altitude of nearly 14,000 feet (B. P. 199.4°; Temp. 60° F.), it may perhaps claim to being the highest city in the world. The Guide Book of Tibet gives the following information regarding this city:—'Litang is 650 li from Tatsienlu and 520 from Batang.'

"In the town and environs the following figures, though based on official information, are given tentatively:

Lamas, servants and students in Lamasery.....	5,000
Tibetans in immediate vicinity.....	2,000
Chinese, Tibetan concubines of same, and children.....	1,000
Nomads on plain and hills around.....	1,000
Soldiers, servants and concubines of same.....	1,000

Total population based on official information..... 10,000

"Litang, notwithstanding its dreary plain, rigorous climate, filthy street, and villainous Lamasery, must always be of great importance to China. It is in the first place on the official road to Lhasa, and also the natural centre of some 5000 Tibetan families in the south. Then the nomads to the north, probably 3200 families, find it their only centre, and traders from Chantui, Sanai, and even Derge visit it in large numbers. The population of the district I give with some hesitation as follows:—

Nomads, Maoyang, Chuehteng, Bon-yag, etc., Chongsi.....	13,000
Local population—Chinese Tibetans, half-castes, etc.....	10,000
Siangcheng, Kongkalin, Taopa, etc.....	16,000
Shomba, Molashih, Tsosang.....	10,000
Chinese officials, soldiers, etc., in above regions.....	1,000

Total population of region formerly under Litang, Tusze or Chiefs..... 50,000

"Litang is likely to remain an important military centre. It is about the middle of the Marches. In the south are the insolent tribesmen of Taopa and Siangcheng; to the southeast the semi-independent region of Meilo, with large and turbulent Lamaseries. Hordes of the independent Chantui, and perhaps also the incorrigible Sanai, threaten on the north, and the local opulent Lamasery will not be slow to take advantage of inefficient administration. From the above it will be seen that the Chinese official, trader, or colonist is only safe as long as China has an army on the spot strong enough to intimidate her relentless and dissatisfied 'barbarians.'

"The above will all have a direct bearing on the commercial status of Litang. Food, clothing, wares, and luxuries for officials, soldiers and Tibetans must all be brought in from Tatsienlu and retailed here, while a large export trade in gold, drugs, hides, and Tibetan commodities may be expected.

"Although for many years defied by the southern tribes, and intimidated by the Lamas locally, it was not until the murder of the Imperial Commissioner Feng at Batang that they showed open signs of insubordination by delaying the transport service. When the generals of China arrived and demanded Ulug, the chiefs were 'not at home' for a month: then sufficient animals would not arrive, and finally the ancient Courier service was not only arbitrarily abolished by their orders, but trains of ammunition, provisions, and accoutrements were left to spoil on the roadside. Finally, important despatches were destroyed, and companies of natives and arms were sent to the assistance of the Taopa and Siangcheng rebels.

"When the Chinese returned victorious, the head chief had fled into Tibet with his family and belongings, and threats and promises of rewards alike failed to unearth him. His colleague remaining at his post in Litang was taken prisoner, with the understanding that his case should be tried at Chengtu; but the triumphal procession had not gone far when it was known that the scion of royalty had taken poison, and before Hochuka was reached he had nothing to fear from earthly justice or injustice. Shortly afterwards, a proclamation by H. E. Chao, Warden of the Marches, abolished the ancient order of chiefs existing in Litang for ever. The northern sub-chiefs remained unchanged; the immediate region of Litang, laymen and priests came under the Commissary of Litang; and Siangcheng and Taopa are yet under martial law. Just what the future form of government will be, is not easy to say; but we may be almost certain that the Lamas, humbled and warned by the fate of Batang and Sampeiling, will not by influence or action complicate the Chinese programme.

"The Tibetans in the regions of Bali are mortally afraid of these wild tribesmen just opposite, and call them robbers without qualification. They dare not offend them on account of reprisals, and it is rumoured that the chief receives 400 taels annually from China on condition that his people do not pillage Chinese subjects. Those of the Sanai which I have seen are wild, independent fellows, wearing peculiarly shaped white felt hats with high crowns and broad brims. It is said they live far up the mountains, but just opposite Shui-maokow there is a settlement where the Sanai live during the season necessary for the cul-



(China Inland Mission.)

THE TACHIENTU RIVER IN GORGE BELOW THE TOWN

tivation of the fields on the river-bank. When winter comes they disappear in the unknown hills to the west. This alone, if true, would give the idea of a haphazard and predatory people.

"Sanai was once under China, but for some reason Tibet claimed it and the former made no effort to regain it. During H. E. Chao's operations in the Marches, however, the subjugation of Sanai was part of China's policy. A party of men went north-west from Litang to the Sanai border and invited the chiefs to parley. As the discussion was going on a Gatling gun was brought out, and its power tested on a rock in the presence of all. The effect was so vigorous that the chiefs tendered their allegiance immediately! 'Sanai,' says the Guide Book, 'is east of Asutang and north of Chiangka. It is known as the district of the Bafan. The people are wild and fierce, and live by robbing travellers.'

"Chupalong is ninety li south of Batang, with a population of 30 families. A small official resides here whose duty it is to control the famous ferry over the Kinsha. The population, although slightly modified by Chinese colonists, petty officials, boatmen, and others, is quite Tibetan in customs and language. We left Chupalong at 3 p. m. and crossed the Kinsha by an auxiliary ferry at a lonely place ten li below the village.

"Kongla is a settlement of about 15 families, near where the Tibetan road leaves the Kinsha for a more westerly course. With the villages of the Kongtzing, and others on the mountain above, it would form a centre for about 70 families. On the left bank of the Kinsha is a road to Rongmi or Tsongtsah, and an unsubdued region farther south bordering on Siang-sheng. The Chinese, probably actuated by ignorance and politeness, give the population of the former as 4000 families, and the latter as 1000 families."

EIGHTY DAYS TRAVEL IN EASTERN TIBET

A Journey Through all the Horba States, through Part of Derge, into Chamdo, and the return journey by Batang to Tatsienlu.

By THEO. SORENSON.*

In company with the Chinese evangelist, a Tibetan colporteur, and a half caste servant, we left Tatsienlu on the 31st of May with a passport entitling us to travel in the whole of Derge. We did not, however, put much confidence in this Chinese passport, as in previous years similar passports had been given me, but not one of them ever brought me further than Kianggu, where the official had private instructions from Tatsienlu to prohibit me going beyond. This time we were better prepared. Having our own horses and provisions to last us several months, we felt that we could do without official help, and, in fact, preferred to travel without Ula.† At Bagmeh we visited a small temple on the hill in which a hermit was locked up for life. We tried to enter the place, knocked at the door and called him, but all in vain, he was not to be moved by influences from the outer world. We noticed there were two doors leading into his cell, one locked from the outside and evidently in charge of those who bring him his food; the other locked from the inside, for his private use. Finding it impossible to get into communication with this recluse, we left the place after having thrown a few copies of the gospels into his cell, which we hope he will be reading and meditating on by this time.

Dawo is the first important village of any importance on the Northern road to Tibet. There are about a hundred and fifty houses in the village, which is situated on a large and fertile plain at an elevation of 10,400 feet above sea level. Close by the village is a very large lamasary with 3,000 lamas. On my first visit three years ago, the lamas were very friendly, gave me presents, and allowed me to enter their lamasary where I distributed quite a number of gospels, but on my second visit, a year later, we were practically driven out of the lamasary, hence this time I thought I had better leave them alone. Dawo is of great importance as a center of trade; it is the North-Western boundary of Chagla, the Western boundary of Geshi, and the Southern boundary of Horba. Hence in Dawo we find, besides Chinese and half-caste people, the Chagla, Geshi, Kongtse and Matse. There is a small military official (Tsongye), besides representatives of the above mentioned chiefs. This place has no doubt in former years formed part of the Geshi territory, as at present the peculiar Geshi dialect of the Tibetan language is still spoken in Dawo and understood all the way to Gantse. We called on the queen of the Matse. She resides on the other side of the Da-Chu River, speaks Chinese and Tibetan equally well, is about fifty-seven years old, and has passed through a great deal of trouble. She is chief of one of the Horba states, and formerly resided with her husband in Kianggu. At that time he was the most important and powerful chief of Horba. Sixteen years ago he was murdered by his own people. Owing to the difficulties of finding a successor, the Chinese Government settled the trouble by appointing a Chinese official to the position, and he is now nominally in charge of the Horba states. The Matse queen-widow, with her infant child, was allowed to reside near Dawo, where she reigns over two hundred families. Thus the greatest of the Horba states has become one of the smallest. On our arrival at Kianggu on the 11th of June we called on the official, who is still living in the old chief's building as the Chinese Government has not yet been able to build him a yamen. The official, as usual, exhorted us not to go beyond Kianggu; but he was not so determined in his objections as in former years, and finally, after having given us a feast, agreed to, and made arrangements for, our journey beyond. Kianggu is a village

of about the same size as Dawo, with the only difference that the Tibetans here are all of one clan, and, since they murdered their chief, have been under control of the Chinese official. There is a large monastery, as at Dawo, connected with the village where there are 3,000 lamas. Kianggu, so far as I know, is the only place in the whole of Eastern Tibet where there is a nunnery connected with the lamasary. It was first built at Gantse by the Tsaga lama, a very rich incarnation, but the Gantse lamas had objections and destroyed his buildings by fire; he was later permitted to build at Kianggu, not far from the village. There are two hundred nuns, mostly old women, many of them looking almost imbecile, sitting outside their mud huts or walking about with their prayer wheels. They all shave their heads and use the same kind of garments as the lamas, of whom there are one hundred in the same place. The head lama received us in a friendly way, and allowed us to enter his private room, where we had a long conversation together. He was especially interested in hearing our opinion regarding "Transmigration." He had heard we had nuns in our country, which gave me the opportunity of telling him about our nurses and the good his nuns might do if trained in similar work.

Chuwo is the third state in Horba; there is only a small Tibetan village connected with the large castle in which the chief resides. He is a young man about thirty years old. We called on him, but he did not receive us in a friendly way; gave us no tea, and did not even ask us to sit down. When we spoke to him he never replied, but some of his attendants answered my questions. He seemed quite relieved when we left him, and spoke for the first time, saying "Walk slowly," i.e. "Good-bye."

At Chuwo we leave the Da-Chu River, the road goes southwest over part of the Chantui pasture land—a district noted for robbery—then turns west again down the valley of the Gantse, where the road continues along the Nia-Chu River. This is one of the most fertile valleys in the whole of Eastern Tibet. It is about fifteen miles long, and three or four miles broad. About fifty villages may be counted along the valley. The Gantse village and lamasary is situated in the upper part of the valley, at an elevation of 11,850 feet. This is the leading and most powerful state in Horba, and is at present ruled by a woman who has deposed her husband. Her two sons are living in lamasary; one is ruler of the church and the other is intended for the state. We were not allowed to enter the village and the Chinese official (Tsong-ye) fearing there might be trouble advised us to cross the Nia-Chu without delay, and to proceed on our journey. He told us that H. E. Chao-Erh-feng, the high commissioner of the Tibetan border, had also been forbidden to enter the village with his soldiers; that he had wisely passed the place without taking any notice of them; but he said when the trouble in Derge is settled there will come a day of reckoning for them.

Beri is the last and the smallest of the states, yet the village contains about two hundred families, all Tibetans, no Chinese or half-castes. We did not meet the chief, as we only remained there for half an hour, and proceeded to Rombatsa, the boundary between Horba and Derge. The union of these five states consists in the intermarriage relations between the chiefs, and also in the mutual reliance on Chantui for advice and help against the Chinese, otherwise one is struck with the bad feeling between the various states and wonder why they should be called the United States of Horba. They are the fighting people of Eastern Tibet, and ancient history is said to chronicle many of the famous kings of Tibet coming from the Horba States.

From Rombatsa may be counted forty villages, all within one day's journey. But this



*From China's Millions.

†The system of Ula empowers the Ruler to demand the use of any animals he may need for himself or those traveling in his name or under his sanction, and also places the hospitality of his subjects at his disposal.

(China Inland Mission)

ON THE ROAD TO TIBET: THE TOWN OF TACHENLU

is also the western limit of the farming population, hence we enter here the nomad country and no sign of farming is seen till we reach Dergegonchen, the capital of Derge. It is a long stage from Rombatsu to Yilongba, and proved to be too much for one of the horses in the heavy snow storm; he lagged behind, finally gave away and dropped on the road. There are two roads leading from Yilongba to Dergegonchen, one south or south-west, by way of a big pass Kiola, the other west, a few days longer. As our men preferred the latter road, and as I had a great desire to visit what is called on the maps Zochen, we decided on this road. The name of this place is, however, not Zochen, but Tsogchen, which means "Great Perfection," and we were very much disappointed to find it only a small monastery, with a little village of a few mud huts belonging to the servants of the lamasary. There is no farming connected with this place, but a splendid pasture land considering the elevation, which I made to be 12,991 feet. Leaving Tsogchen we traveled west for some time, then made a turn to the south up a small pass. From the pass downwards the road goes south along a river called Halong, a very difficult road; as the river has to be crossed continually, and there are no bridges, we have to depend entirely on our horses. As a rule they are very sure-footed, once only did a horse stumble while crossing a river, and the unfortunate rider received a rather unexpected and cold bath.

After leaving Kolodo, a small village with a few houses, we continued to follow the same river, which is called Ser-Chu, through a lovely valley which leads into the most magnificent gorge about 2,000 feet high. The road through this gorge is both dangerous and difficult, and there is no less than thirteen very primitive wooden bridges to be crossed. We had been warned by the natives of the dangers of this gorge, and were told that some time previous no less than eight Tibetans were drowned in the river—six men and two women. Ammunition and guns belonging to the Chinese army had also been lost. At this place we too had some difficulties. As one of our horses was crossing, an old bridge gave away and the poor beast dropped into the foaming river. We were two hours repairing the bridge before we could get our goods across; our horses had to swim the river. It seems to be the deliberate purpose of the natives to keep these bridges in as poor a condition as possible, so as to be able to destroy them at a moment any moment an invading army enters the gorge. This no doubt is the reason why H. E. Chao Erh-feng has built a new road between Batang and Derge, so as to avoid this dangerous gorge, where an army might be cut off and destroyed in a very short time.

We arrived at Dergegonchen, the capital of Derge, on the 27th of June, and were invited to stay in the lamasary, but as this had already been occupied by Chinese soldiers, we preferred to camp a short distance from the place. Dergegonchen, the great lamasary, is situated in a narrow valley surrounded by very high mountains, and on the south side of the Ser-Chu, which some twenty miles further west runs into the Dre-Chu. The valley is not cultivated, and there are only a few houses, scattered for apart. It is 10,923 feet above sea level. We had expected to find the capital of Derge a large centre for industry and farming, but to our great disappointment we find it is only a lamasary with about 500 lamas, and no village connected with the place at all. In the centre of the lamasary is a magnificent four-storied high building, the residence of the King of Derge, and connected with the lamasary is the famous printing establishment, where the Kang-Gjur* may be bought by Tibetans for the cheap price of Tls. 150.

Derge is the largest States in Eastern Tibet, and has been up to the present an independent little kingdom, though rather inclined to favour the Chinese than the central Tibetan authorities. The whole population of Derge is said to be 40,000 families, the greater part of which are nomads, scattered over such a large area of country that one may travel for days without seeing any sign of people. The boundary of Derge is, in the north, Tsa-chuka, or the Ngolog country; south, Batang; east, the Horba States;

and west, Chamdo. The people of Derge are not fighters like the Horba people; they make poor soldiers, and the nomads are deceitful, untrustworthy, and very mean. The villagers are much superior in character, and are the most industrious people of Eastern Tibet. The trouble, which has now lasted for more than four years, is a matter of difference between the king and his younger brother. The natural result of this difference is that the people are divided into two parties, one in favor of the king, the other in favor of his younger brother. The real difficulty, however, is that while they are both children of the same mother, it is said and believed, that the younger brother is not a son of the former king. The younger brother succeeded in expelling the elder brother from the country, and took over the control of the State for four years. Meanwhile, the elder brother has appealed to the Chinese authorities, and it is now with the help of H. E. Chao Erh-feng that he is reinstated as king or chief of Derge. We did not have the pleasure of meeting the king, as he had gone with H. E. Chao Erh-feng to the north of Derge in search of the younger brother, whom they are determined to capture. It was rumored that he had gone to Tsachuka and taken refuge in a monastery. H. E. Chao Erh-feng with 500 Chinese, and 500 Tibetan soldiers in company with the king, succeeded in capturing the place, but the younger brother is still at large. One cannot but admire the ability of H. E. Chao Erh-feng in settling the complicated and difficult matters of these people. As an example, I might mention the plan on which he seems to be working in order to subdue the whole of Eastern Tibet. While Chantui, Gantse, and Draya are his greatest enemies and causing him the most trouble, he is simply leaving them alone, while he is establishing the Chinese authorities in the State of Derge, which is the most favorable to the Chinese. At the same time he is building a road from Derge to Batang, thus connecting the state with China, without having to depend on the road going through Gantse and part of Chantui. His next move, I was told by an authority, is to send his army of 2,000 soldiers to Chamdo, and then he has practically the whole of Eastern Tibet under his control, as his greatest enemies, Chantui, Gantse, and Draya, are being surrounded by his army. If the Chinese Government do not change their plan, there is no doubt that in the near future the whole of Eastern Tibet will be entirely subdued and controlled by China.

Never before had a foreigner entered Dergegonchen, but owing to the number of Chinese soldiers and the friendly way in which the representative of H. E. Chao received us, we were allowed to walk freely about, visiting the king's residence, the lamasary, and the printing establishment. As we had arrived in Derge without official escort, we left the capital without asking for the same, knowing it would not have been given to us if we had told them we intended to go to Chamdo. No doubt the officials were surprised at finding us disappearing as unexpectedly as we had arrived, and I had some fear that they might send soldiers to stop us. However, we were relieved of that fear when we had made our first stage towards the Dre-Chu and rested in the king's summer palace, a place called Chongra, where there are a few houses in the village and some farming. H. E. Chao has appointed a few soldiers to cultivate vegetables; they had succeeded very well, and their garden produced all kinds of Chinese vegetables, including tobacco.

Leaving Chongra we continued to follow the Ser-Chu south for seven more miles till we reached the large river Dre-Chu, which at this place is about 300 feet broad. The river has to be crossed in very small skin boats, somewhat different from those used at Dawo and Gantse, though made on the same principle. It took us about two hours to get our horses and all our belongings across the river to the little village Tsomtong, where there are about fifteen houses. The people here were friendly, but one was struck with the dulness and the absence of merriment and life ordinarily so characteristic of Tibetans. The reason, however, soon appeared. We learned that no less than twenty-eight persons had died there

within the last few months, and a few more were dying at the time of our visit. From Tsomtong the road leads through a small gorge into a fertile valley where there are about one hundred and fifty houses widely scattered; then over the Nesla, 14,649 feet, and down to the Warra-Chu River, passing two small villages, Rongsong and Chamda, to Kagong. We arrived on the 5th July at Kagong, the last village in the Derge territory. In passing through the Derge State one is struck with the poverty of the people and the scarcity of population. The smaller valleys contain about ten houses, the larger twenty, and the largest we passed through, fifty. The nomad districts have the larger population, but they are very scattered; as a rule from five to twenty tents together. Lamasaries are plentiful, but not so large as in the Horba States. We had to remain a day at Kagong drying and mending our tents, as we had had such an awful rain the previous day. This delay gave us an opportunity of getting better acquainted with the people of the place, who gathered freely around us. At Kagong we were confronted with some difficulties. Between this place and Chamdo is a journey of nine days through a most difficult and dangerous nomad country, absolutely impassable without a local guide, as for the most part of the journey there is no track whatever to be seen, the grass being in some places as high as one foot, or more. It is dangerous because for two travelling days the country passed through is uninhabited, and is a general hunting place for wild beasts, deer, and lonely travellers. The robbers in these parts are hunters. Tired of the quiet life in the nomad camp, they leave the cattle in charge of the women and children, and go in companies of from four to ten, well armed, and riding the very best horses. Their first purpose is to hunt for deer, but if while on the high table-land they see a hopeful caravan on the plain, they arrange to surround it in the night and rob or kill, according to the opposition they meet with. Our Tibetans were very much afraid to go beyond this place, and told us that all the pilgrims travelling to Lhasa from their district always spoke of this part as the most dangerous on the whole road.

We engaged two local guides, and, depending on them, started into the unknown and hitherto unexplored country. Towards evening we arrived at a rather hostile nomad camp, consisting of about thirty tents. This was the first day we had met with any opposition, and matters looked rather grave in the beginning, though finally, after much talking, we came to an understanding. They allowed us to camp, and gave us some help with regard to fuel and water. Meanwhile our guides had disappeared, and we found to our great astonishment that, for some reason, we had been led astray, and were not, as we believed, on the road to Chamdo at all. Nor was this the only trouble. In the morning, when we prepared to leave, all the Tibetans gathered together for consultation, and when they started with smiling faces and in loud voices to chant their prayers, I knew danger was imminent, and prayed that we might be kept calm. They demanded money before they would let us depart. We paid accordingly, and they made a further demand. This we also gave them, but when they were yet unwilling to give us a guide and made another demand for money my Tibetan colporteur prepared to resist them. This I knew would be a very dangerous mistake, as I fully believed the Tibetans were only waiting for an opportunity to attack us. We therefore paid their third demand, and started on our return journey, while once more the Tibetans began to chant their prayers in a very excited and loud voice. We were thankful to leave these hostile and unfriendly people without any further trouble, and more so when a little while after one of them turned up willing to go with us as guide one day's journey.

We had to return by the way we came the previous day to the Tsochu monastery, then turning south-west, over the Kelela Pass, 15,300 feet, again south to the nomad camp Soreh, where there are about forty tents scattered over the table-land at an elevation of 14,000 feet, at which altitude I found it a little difficult to sleep well during the night. The nomads of

*The Lamiist Scriptures.

this district were more friendly, they came freely about us, and, after some time, were also willing to sell us milk, butter, and meat. We also succeeded in getting a guide to go with us all the way to Chamdo, though only on the condition that we paid him in advance. In these parts of Tibet it is not for us to make the terms and conditions, we are entirely at the mercy of the people.

Having crossed the Karala Pass 15,750 feet, we passed another nomad camp in the Klor-Gong (? Kagong) district, and entered the uninhabited grass country. Suddenly four well-armed Tibetans came riding towards us, and, without speaking to us, tried to drive some of our animals in front of them. We gave orders to halt, and pretended to camp for the night, the Tibetans watching us for a while, then they proceeded on their journey. When they were well out of sight, we started again and continued travelling until we got to a suitable place for camping, where we had plenty of water and grass for the horses. Later in the afternoon a party of lama pilgrims arrived and camped close by our tents. They were exceedingly pleased to learn that we were going to Chamdo, and asked for permission to travel with us through this part of the country. We were also glad to have our party increased, and our Tibetans began to feel relieved regarding the four robbers we had met during the day. They now began to speak more freely about them, and said they knew for certain they were robbers and that they had made an attempt to take our horses. As we were thus sitting talking over this matter, the same four Tibetans turned up again, and our men, having got more courage now as our party was increased, asked them where they were going and what they were doing. In reply to which they said—as they rode along—that they were out hunting. We spent the evening together with the lamas, who had many stories to tell about their fights and troubles with the robbers, as seemed evident by the marks on their faces. One of them had unfortunately lost his eyes on a former pilgrim journey to Lhasa. As we were preparing to go to sleep, the lamas and our Tibetans began some awful yelling, as if they were getting mad or at least very drunk, and it made me wonder what was coming, as I was not yet acquainted with this Tibetan characteristic. I was, however, soon told it was their custom in these parts of Tibet in order to keep off wild animals, and also to let robbers know, if there were any in the near vicinity, that here were people too numerous for them to attack. Hence the more yelling the more power. This experience we had to endure night after night till we reached the first village near Chamdo. It was one of the most unpleasant memories of the whole journey, as it reminded me too much of the yells heard in a Chinese mob. We proceeded on our journey the following day in a very heavy hail-storm, thunder and lightning, and encamped in the Bereh district, where we saw a number of bears and a few deer.

Our next camp was Toh. In my diary (12th July) I have written the following:—"To our great surprise this morning we find our guide has run away during the night; fortunately there is a party of pilgrims with us who know the road, and besides, we have now a track to follow. Our road to-day led west for five $\frac{1}{2}$ (about two miles), then a sharp turn to the south, where we ascended the Chabila, a very rough journey and steep climb to the summit, 17,400 feet. At this point, and for hundreds of feet below, there is absolutely no vegetation whatever, only sand, gravel, snow, and ice. Descending the pass was more difficult, and we had to lead our horses down to the small village Reya, where we camped together with a large lama party we had passed the previous day. We had another surprise to-day. While several Tibetans armed and on horseback suddenly turned up, one of our Tibetans called out: "Robbers!" They only looked at us for a while, and then went away in the same direction from which they had come. On the following day we crossed the Tamala, and though it is only 15,750 feet high, yet it proved to be the most difficult pass to cross since leaving Tatsienlu. Descending the pass we again entered a very well cultivated valley, with quite a number of houses, the construction of which

were somewhat different from those in Derge. We camped within a few miles of Chamdo, on the top of a hill, at the foot of which we could see the two rivers, the lamasary, and the village. Here we had a very strange and unfortunate experience. While our horses were seemingly enjoying themselves after the long and hard journey, we noticed that one by one they became as though dead drunk, lost all their power of movement, and were unable to eat. They remained in this condition with shut eyes for more than a day. All our attempts to get them to eat and walk were fruitless, and when we asked the natives for advice, they told us the horses had eaten the poisonous grass, and the only remedy would be to give them wine mixed with some of the same grass as they had been eating. This, they said, would relieve them of their pain, but although we carried out the instructions, some of our horses died, while the others remained in a very poor condition. For this and other reasons I thought it better not to go beyond Chamdo.

Hence we changed the original plan, and early in the morning of the 14th July sent Mr. Yang, the evangelist, into Chamdo to inform the official of our coming, and to ask him if it was possible to get a house or if we should have to camp. Mr. Yang did not return, but a soldier was sent to our camp with word from the official that a house was made ready for us in the next village. It was raining when we entered Chamdo, but as soon as we were in sight the whole village—men, women, and children—were all in a great excitement, wanting to get a look at the first foreigner ever seen in Chamdo. The officials were no less excited and surprised at our coming, specially as we were without Chinese or Tibetan escorts. When the word reached the military official as he sat at meal, he told us he was so surprised that he dropped his basin of rice, wondering what the lamas would do to us. The officials were friendly and obliging, but made us understand that it was their duty to send us back to China, as they had received instructions from the Foreign Office to this effect. The military officials, however, said that if we insisted on going forward, he would give us an escort, but the journey must be taken entirely on our own responsibility. It may be as surprising to others as it was to myself to learn that Chamdo is not part of Lhasa territory, and is in no way under the Lhasa authority, but is an independent State with a Government on the Lhasa principle; one incarnated lama as ruler of State and church, with three chief lamas as his ministers residing within the enormous lamasary of Chamdo. There is in connection with this ministry in all twenty-four lay magistrates throughout the whole state of Chamdo, governing a population said to be 80,000 families. The Chamdo Government sends a mission with tribute every six years to the Emperor of China; if the advantage were not on the Tibetan side, there certainly would be no tribute sent to Peking, but now we are told, the presents they receive in return from the Emperor are much more valuable than the tribute they bring, besides the great advantages for trade which are offered by such a mission.

Chamdo is the largest and most important place between Tatsienlu and Lhasa, and is situated on a large plain between the rivers Tsa-Chu and Non-Chu, at an elevation of 11,472 (? 11,712) feet above the sea level. The lamasary, which is the greatest in Eastern Tibet, has only got 3,000 lamas, but the temples and buildings are at least ten times as large as any of the larger monasteries we have passed on our journey. It is situated on a hill, and looks like a city of 14,000 inhabitants. Chinese and people in general are not allowed to enter this sacred place without previous arrangements with the proper authorities. The village, which is at the foot of the monastery, has a population of four hundred Tibetans, and three hundred Chinese or half caste, besides one hundred and thirty Chinese soldiers under the command of a military *T'ongling**. The respective yamens of the *T'ongling* and the *Liang-tai**, as well as the soldiers' dwellings, are all surrounded by a fairly high mud wall, though the village itself is without a wall. There is

*Two military officials.

one large and several small streets in the village. We were greatly impressed with the cleanness of the place. There is also a small Mohammedan mosque with about forty families. The Chinese are absolutely powerless in Chamdo; they have to serve the lamasary; and even the Chinese soldiers are not exempted from these taxes. In case of trouble between Chinese and Tibetans, the latter decide the cases, and any appeal to the Chinese mandarin is of no avail. The Chinese soldiers told us that up to recently it was quite common to see Chinese beaten by Tibetans in the village, and the mandarin confirmed this statement by saying that they, the Chinese, had not been able to lift up their heads. However, they all agreed that their standing had been much improved since H. E. Chao had been appointed High Commissioner of the Tibetan border, and they were hoping the time would soon come when they should not be obliged to serve the lamasary. This, they added, is the only place in the whole of Tibet where such compulsory service is demanded from the Chinese. There is also a great deal of unrest amongst the Tibetans in these and other parts of Tibet owing to the appointment of H. E. Chao, whom they fear and hate, and everywhere they are preparing and drilling soldiers, and in some parts they have already declared their independence and are refusing to give Ula or cattle and horses for the convenience of Chinese travelling in Tibet. The Nepaulese tribute expedition arrived in Chamdo the day after our arrival, and increased the life and business of the quiet city considerably. Merchandise from Peking and Calcutta, Lhasa and Tatsienlu, were all for sale in Chamdo, the centre and heart of Tibet. Food is also plentiful and easily obtained, such as rice, flour, tsamba, beans; and various kinds of vegetables, mutton, beef, chicken, eggs, and fish can also be had daily. The lamas by this time were very much concerned about our movements, and sent constantly messengers to the yamen inquiring about us, why we had come to this place and what we were going to do. They also told the mandarin that if they had heard of our coming they would certainly have sent soldiers preventing us from entering the Chamdo territory. The *Liangtai*, fearing there might be some trouble, had already sent a special runner to Batang, informing the mandarin and asking him to send a special guard of soldiers to meet us at Draya, consequently arrangements were made for us to return by Draya to Batang. As we were leaving on the morning of the 17th July, the mandarin overtook us at the bridge and told us he had just received word from the official in Kiangka that there was trouble, and it would not be safe for us to travel that way. There was nothing else for us to do but to return by Derge, which meant another ten days' travelling and camping in that most dangerous and difficult country. However, the mandarin gave us an escort of four Chinese or half-caste soldiers, besides two Tibetans given us by the lamasary. We had been able to distribute in every village and nomad camp through the Horba States, Derge, and up to Chamdo, five hundred copies of the Gospels, and the three days we remained in Chamdo we had no difficulty in distributing the remaining five hundred copies. We hope and trust this work has not been in vain.

The return journey to the capital of Derge proved more convenient now as we had a Chinese and Tibetan escort. In my Chinese and Tibetan passport was written: "Two Chinese officials (the evangelist and myself) returning from Lhasa with important documents." In some places I overheard the Tibetans conversing and asking, pointing to me: "Is this a Chinaman?" The others replied: "They say so, but *Nga-Tso Ha Ma Go*." In the districts where a Chinaman never had been seen there is no doubt I passed for a Chinese official returning from Lhasa. The changeableness of the weather was quite remarkable. In the early morning we might have the finest sunshine, and a few hours later a very heavy snow or hail storm; thus the weather might be changing several times a day. This kind of weather seemed to be hardest on the animals, and we had, unfortunately, to leave one of the horses behind in a nomad camp, as he was unable to follow us any longer. When we arrived in Derge

the representative of H. E. Chao expressed his surprise at our daring attempt to enter those wild regions of Tibet, and was glad we had been able to make the journey without any difficulties. We decided to return to Tatsienlu via Batang, as this would give us an opportunity of visiting Horbo, the famous district in Derge for work in teapots, saddles, swords, and guns. We were, however, greatly disappointed, as we found the village did not exceed the usual number of from ten to fifteen houses. There is no special village or place where this work is done; it is a home industry, carried on by individual farmers in the Horbo district in their spare moments. At this place the Dre-Chu makes a sharp turn to the west and is never seen again till we meet it ten miles below Batang. The new road, made by order of H. E. Chao, makes travelling very comfortable between the capital of Derge and Batang, and with the exception of Lhakiala, 16,150 feet high, the other two small passes are not worth mentioning. The Derge territory extends up to the Dashi boundary, within three days' journey of Batang. We had the privilege of staying with the Dashi chief, who resides in a grand four-storied high building. He is the ruler of a very small territory with three hundred families, and is said to be paying a yearly tribute to the Derge State, though otherwise independent of Derge.

It was with joy and pleasure we arrived in Batang late in the evening of the 3rd August, after a very heavy day of rain, and as I entered the village I could not refrain from saying aloud "Bless the Lord, O my soul, and forget not all His benefits." I shall never forget the kindness shown me by Dr. Lofties, who came in the rain and met me, and insisted upon me going to stay with him in the hospital where he was living at that time. It was the same night he took ill, and he was never again to get out of his bed. He died not many days after as a result of typhus and small-pox, which he contracted while attending his patients.

The road between Batang and Tatsienlu is good, but the journey was tedious, as, except in and around Litang, Hokeo, and Tongngolog there are neither people nor cattle to be seen. It is no wonder that seventy per cent. of all the Tibetan trade goes by the northern road. We stayed in the Litang lamasary and got permission to visit the temple and printing establishment, which we found to be somewhat smaller than that of Derge. The Kang-Gjur is here printed in red, while in Derge it is the black print. The lamasary was a disappointment. From all reports we expected to find something enormous, but it proved to be the smallest of any of the larger monasteries we had passed on this journey. We visited some, and passed in all

RAILWAY PROJECTS FROM BURMA INTO CHINA

(The railway problem between Burma and Yunnan and its bearing on Britain's future trade with the upper Yangtsze Valley, forms the main subject of Major H. R. Davies' book, entitled "Yun-nan, the Link Between India and the Yangtsze." As Major Davies and his party made the reconnaissance for this road, in the interests of the Government of India, and the Yunnan Company, his book is therefore authoritative, and will stand for many years as the last word on this project. The recent completion of the French Railway to Yunnanfu, drawing the trade of the province to their port of Hanoi, and its possible extension northwards under Chinese capital, connecting with the Hankow-Szechuen line, is a formidable obstacle to the fulfillment of British aspirations. As the Yunnan Railway develops the trade of the Province, French goods will gradually monopolize the market, and as time passes, the door of opportunity will be closed to Britain, in spite of the honest application of the Open Door principle. As with the Japanese in Manchuria, the French in Yunnan, owing to their commanding position, will diminish the commerce of the Province. This possibility is one which must be viewed with solicitude by

twenty-two lamasaries, of which four alone represented 12,000 lamas, or the twenty-two lamasaries together a number of about 24,000 lamas. The religious aspect of these lamasaries is of least importance. Only a few of the lamas are set apart to attend to the religious services, while the others are taken up with the financial and political part of the work. The lamas are first of all the rulers of the country; second, they are the great trading companies; third, the lamasaries are the fortifications of the country, and the lamas are the real standing army of Tibet. This lama-system is the most difficult problem for the Chinese Government to solve, and is the greatest hindrance in mission work.

It was interesting to see Tongngolog again. It is a fertile place, with about seventy families living in the whole valley. When I first visited this place, ten years ago, Mr. and Mrs. Amundsen were then stationed here in a small Tibetan house. In all these years the place has remained the same, no alteration and no change, with the exception of the Government rest-house which has been added to the village. We were glad and thankful to get back to Tatsienlu on the 25th August, after a mission journey of more than eighty days riding on horseback through practically the whole of Eastern Tibet.

the Government of India; as unless some effort is quickly made to open up communication with Yunnan from their side, the future trade of the great Upper Yangtsze Valley will gravitate towards Hanoi, as it is several hundred miles nearer than Shanghai.)—Ed. Note.

The idea of drawing the trade of Western China towards Burma is by no means a new one. To Captain Sprye is due the credit of being the originator of the scheme, for as long ago as 1831 he drew attention to the advantages of our position in Burma as a means of attracting to our sea ports some of the commerce of the land-locked province of Yun-nan.

In those days railways were not thought of, and it was at first only the opening of a trade route that Captain Sprye proposed. In later years he advocated a survey for a railway line from Rangoon into Siam, and thence northwards to Keng Tung and Keng Hung (lat. 22° long. 100° 50'). Captain Sprye's proposals, though they had many supporters among the higher officials in British Burma, were not approved of by the Government of India, and nothing more was undertaken than a survey of a line from Rangoon northwards to Toungoo.

The Yun-nan railway question was again revived about 1867 when it became known that the Upper Irrawaddy could be navigated by steamers as far as Bhamo. This town is situated close to the Chinese frontier and it naturally suggested itself that this would be the best route for establishing a trade with Yun-nan. The road from Bhamo to Yun-nan Fu had not been explored by Europeans since the time of Marco Polo, and it seems to have been hoped that a line for a railway might be found in this direction.

This idea was at once dispelled when the reports of Margary and Baber showed that the high mountain ranges and deep valleys which cross the road from T'eng-yueh T'ing to Ta-li Fu would make the route quite impracticable for a railway. Baber's remarks were in some cases so emphatic as to create among those who had not studied the subject very deeply an impression that any railway through Yun-nan was impossible.

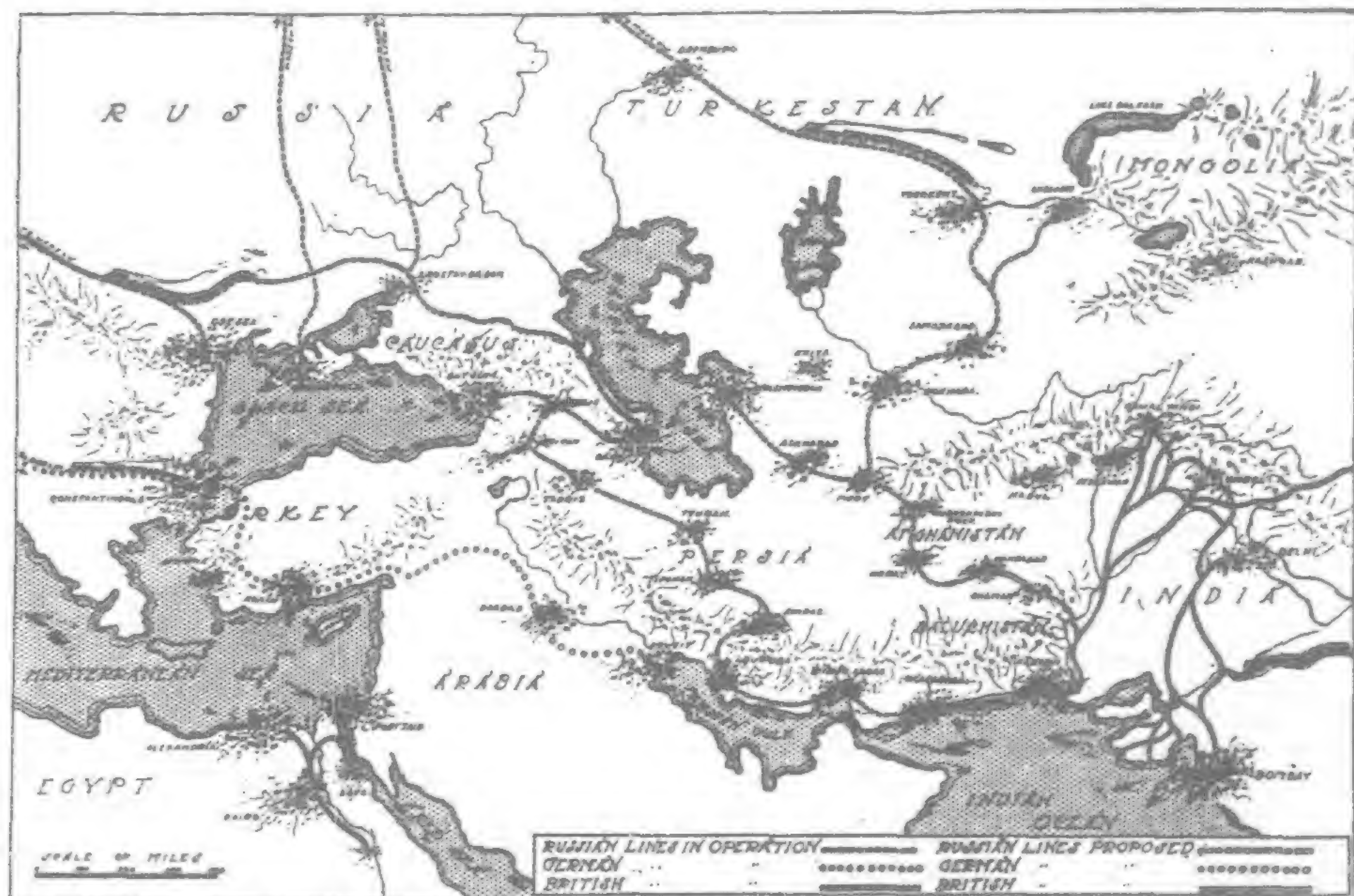
Of the high range between the Salween and the Shweli he remarks, "If British trade ever adopts this track, we shall be delighted and astounded in about equal proportions." In another place he says, "By piercing half a dozen Mont Cenis tunnels and erecting a few Menai bridges, the road from Burma to Yun-nan Fu could doubtless be much improved."

Allowing for the slight exaggeration which no one will grudge to a writer of Baber's talents, this description does give an idea of the difficulties of parts of this road. But these remarks were made about the road from Bhamo via T'eng-yueh T'ing and Ta-li Fu to Yun-nan Fu, a line which no one now advocates as possible for a railway. If those who think Baber was therefore opposed to any railway construction, they will see that Baber himself suggests the very line of approach that has now been adopted.

About 1881 a fresh scheme, based on the proposals of Captain Sprye but differing somewhat in the line taken, was brought forward by Mr. A. R. Colquhoun and Mr. Holt S. Hallett. This line was to start from Moulmein, a port which lies in Lower Burma at the mouth of the Salween. From there it was to run eastward to Raheng in Siam, and thence north up the Menam valley, and through Keng Tung and Keng Hung to Ssu-mao T'ing in the southern part of Yun-nan (lat. 22° 50', long. 101°).

As far as the physical difficulties of the country are concerned, this was probably the best line that could be found, though from Ssu-mao onwards difficulties would begin. The principal objection to it was that it ran mainly through Siamese territory and would therefore do more to develop Siam than our own possessions. Still, as long as our rule extended only over Lower Burma, this line seemed the only means of getting communication with Western China.

The annexation of Upper Burma in 1885 changed all this. A railway had already been carried northwards from Rangoon as far as Toungoo, and by 1889 the extension to Man-



(From Everybody's Magazine.)

CENTRAL ASIAN RAILWAYS.—MAP SHOWING THE GERMAN AND THE TWO RUSSIAN RAILROADS NOW PROGRESSING TOWARD THE INDIAN OCEAN. ALSO THE ENGLISH RAILROADS IN NORTHWESTERN INDIA



dalay was completed. Meanwhile the Shan States, which lie to the east of Burma and had been tributary to the Burmese king, were explored by our columns. They found here a peaceful trading population and our rule was established without any serious fighting.

The development of the Shan States then naturally engaged the attention of the Government. Surveys for a line were carried out by Mr. Bagley, and the great engineering difficulties of the rise from the Irrawaddy plain were overcome. The line starting from Myohaung, a little south of Mandalay, passes through Maymyo and Thibaw to Lashio, the capital of the Northern Shan States (lat. 23°, long. 97° 45'). The railway was completed up to this point in 1902 and Lashio is still the terminus.

From here the line could easily be carried on to Mong Yaw and a survey has been made of the 75 miles which separate this place from Kun-long Ferry on the Salween (lat. 23° 25', long. 98° 40'). Though the railway is likely to stop at Lashio for the present, it would doubtless be at once extended to Kun-long if the construction of a line through Yun-nan was undertaken.

The existence of this railway through the Shan States has much simplified the problem of communication with Yun-nan by definitely deciding the direction which such an extension should take. Whatever may originally have been the merits of the proposals of Mr. Colquhoun and Mr. Hallett, their line cannot now compete with an extension of the Kun-long railway. From Moulmein to Ssu-mao T'ing is a distance of 700 miles: from Kun-long to Yun Chou (lat. 24° 30', long. 100° 10') is only 145 miles. Moreover Yun Chou is better placed than Ssu-mao for drawing the trade of Yun-nan.

THE YUN-NAN RAILWAY

The original proposers of the Yun-nan Railway had in their minds simply the drawing of the trade of that province towards Burma. It was then hardly realized that beyond Yun-nan lay a far richer and more populous province—that of Ssu-ch'uan. The eventual object of any railway scheme now proposed must be not merely the encouragement of local trade across the Burmese frontier, but the attainment of a through route from India to Ssu-ch'uan and to Eastern China.

It was with this view that in 1898 the Yun-nan Company determined to send out an expedition to reconnoitre for a railway line to connect Kun-long on the Burmese border with some point on the Upper Yangtze to which boats can ascend. Of this expedition I had the good fortune to be in charge, but I do not propose in this chapter to go into details, but merely to confine myself to the general conclusions arrived at.

All that will be necessary here then will be to state as shortly as possible the results of our work.

1. A reconnoissance was made for a railway starting from Kunlong on the Burmese frontier and reaching the Yangtze either at Sui Fu (lat. 28° 45', long. 105° 25'). (The route reconnoitred is shown on the accompanying map.)

2. The total distance from Kun-long to the Yangtze is 1,000 miles. The greater part of the line would traverse exceedingly difficult country, necessitating in places a grade as steep as one in 25 and possibly a few short lengths of rack. The total cost of a metre gauge line would be perhaps £15,000,000 to £20,000,000 and the time required for construction would be at least ten years.

3. Though there are great possibilities of future trade, the province of Yun-nan is, owing to bad communications, at present so little developed that the railway cannot be made as an immediately paying commercial speculation.

Under such circumstances commercial men are not likely to put their money into a scheme in a foreign country for which such a large sum would be required without any probability of a profit for some years. A guarantee from the British Government of even a low rate of interest would doubtless produce the necessary money. The question therefore resolves itself into this. Is it worth the while of the British Government to spend money on the construc-

tion of the whole or any part of the Yun-nan Railway?

The purposes of such a line would be twofold:

1. To draw the trade of Yun-nan towards Burma, and thereby prevent the trade of Western Yun-nan being taken from us by the French.

2. To reach the rich province of Ssu-ch'uan, there to connect in the future with the projected Hankow-Ch'eng-tu railway, thus forming a through route between India and Shanghai—a link in the grand trunk line which will doubtless some day connect Calais with Eastern China via India.

It will be convenient to consider first the second of these two objects. As far as the Ssu-ch'uan, trade is concerned it does not seem likely that the Yun-nan Railway can compete in the more bulky class of goods against a line coming from the east. While the long, costly, and risky boat journey up the Yangtze gorges remained the only means of bringing foreign goods into Ssu-ch'uan, the Yun-nan Railway might have hoped to draw the trade of this province towards Burma. But now this state of things seems likely to come to an end, for Ssu-ch'uan in the course of a few years will probably be approached by a railway coming from the east.

To find a practicable line from Hankow to Ch'ung-k'ing and Ch'eng-tu has not been an easy task. Many routes were tried and found impracticable, but the perseverance of Colonel Manifold and those who worked with him has overcome these difficulties, and a route has been discovered which is reported to be feasible.

Now cotton cloth and yarn are the principal imports into Ssu-ch'uan, and these come chiefly from Bombay. Let us therefore take Bombay as a starting-point and compare the two routes.

The approach to Ssu-ch'uan by the eastern line entails a somewhat long sea journey of 4,700 miles to Shanghai. But it would not always be necessary to break cargo here. For half a year large ocean-going ships can reach Hankow 600 miles up the Yangtze, and there is no season of the year when ships drawing 10 feet cannot navigate the river up to this point. Cargo could therefore be carried in seagoing ships straight from Bombay to Hankow.

From Hankow to Ch'eng-tu via Ch'ung-k'ing would be about 1,100 miles by rail. A direct railway from Hankow to Ch'eng-tu without touching Ch'ung-k'ing would materially shorten this distance, but as the line via Ch'ung-k'ing seems the more likely to be first constructed, it will be well to reckon the distance at 1,100 miles.

Taking now the Yun-nan route, the voyage by sea from Bombay to Rangoon is only 2,150 miles, but from Rangoon to Ch'eng-tu by rail would be some 1,600 miles.

Sea freights are so cheap compared to railway rates that these extra 550 miles of land travelling are likely to more than counterbalance the advantage of the shorter sea voyage. It should also be remembered that the cost of construction of the eastern line and its working expenses are likely to be less per mile than those of the Yun-nan Railway.

The construction, however, of the Hankow-Ch'eng-tu railway would cut both ways. Though it would probably carry a large part of the trade of Ssu-ch'uan, it would at the same time add greatly to the traffic on the Yun-nan Railway, for the two lines together would form the shortest route between India and Eastern China.

This brings us to the question of a through railway route from India to China. In an age when railways are penetrating to the most out-of-the-way places in the earth, it is impossible to suppose that India and China—the two most populous countries in the world—will be content to remain side by side without being connected by railway. I think I am quite safe in asserting that any such railway must pass through Yun-nan.

I do not know that any route passing further to the north, through Tibet or Chinese Turkestan, has ever been suggested. The great height of the mountains and the very long stretches of extremely poor country would, I think, make any such project impracticable. We are then driven to the conclusion that it is only through Yun-nan that India can be linked to the Yangtze and to Eastern China.

Now the first railway to penetrate Yun-nan will undoubtedly be the French line from Tongking (see map) which is at the present moment actually in course of construction. When the French railway has reached Yun-nan Fu, the capital of the province, it is not likely to stop there. The country between Yun-nan Fu and the navigable part of the Yangtze is so difficult that I do not suggest that this part of the line would be immediately taken in hand. But there can be little doubt that extensions would eventually take place not only to the east, but also to the west.

A Frenchman who has been recently travelling in Yun-nan on an official mission points to Ta-li Fu as the goal of a western extension of the French railway, and places the future western limit of French influence and French commerce at the Mekong (long. 99° 30'). It must be remembered too in this connection that the country between Ta-li Fu and Yun-nan Fu is on the whole less difficult for railway construction than most other parts of the province.

If then we are content to postpone the idea of constructing a railway from Burma into Yun-nan, the fact has to be faced that in the meantime the French will have got possession of all that part of the future Burma-Yangtze line which lies east of Ta-li Fu, or, to put it in figures, about 700 miles out of the total of 1,000 miles will be in foreign hands. Moreover the trade of even Western Yun-nan, the richest part of the province, is likely to find its way to Tongking instead of as at present to Burma.

As the owners of the Indian Empire and the possessors of by far the largest share of the foreign trade of China, we can hardly remain indifferent spectators of the construction by foreign powers of the connecting link between these two countries, nor can we well sit still and see the trade of Western Yun-nan snatched from our very doors.

I am not alluding here to political rivalry. The break-up of China which once seemed so imminent appears likely to be altogether avoided. If in spite of appearances such a catastrophe should take place, the political influence in any particular province will naturally go to those who have spent their money and labor in developing it.

But it is not on political grounds that I would base arguments in favor of the Yun-nan Railway. The construction by the French of their line from Tongking to Yun-nan Fu and its subsequent extension both to the east and to the west are matters of most legitimate commercial enterprise. The most difficult part of the Yun-nan Railway would be that which lies between Yun-nan Fu and the Yangtze, and here, it must be remembered, the French are in no better a position than ourselves. Here both nations have to face the same difficulties. The French Government have not hesitated to give their support both moral and financial to the undertaking. If the British Government decline to follow this example, they must also be prepared to lose in the future the advantages of such a policy.

It is not my intention to pose as an adviser of the Government but merely to state the facts. The Foreign Office have all the threads in their hands, and can best judge whether the expense would be justified by the end.

I would, however, remark that there is a middle course which I believe would be the best to adopt. I do not think that it would be necessary, or even desirable, that the whole line from the Burmese frontier to the Yangtze should be undertaken at once. Such a project is too vast to be carried through in any way but by gradual stages.

My suggestion is that for the present the Burma railway should be extended from Lashio to Kun-long, and the Yun-nan Railway constructed from Kun-long to Yun Chou.

This town could be reached in about 145 miles from Kun-long at a cost of about £1,500,000 to £2,000,000. It is the commercial centre of a district which suffers much from want of communications with good markets. An extension of our railway system to Yun Chou will bring within range of Burma many parts of Yun-nan hitherto inaccessible, and will materially shorten the distance to places which already trade with us.

At present nearly all our trade with Yun-nan comes through Bhamo. The following table gives the comparative distances from Bhamo and from Yun Chou to different places in Yun-nan.

	To Bhamo.	To Yun Chou
From Teng-yuen T'ing.....	112	161
From Yung-ch'ang Fu.....	173	100
From Hsia-kuan (near Ta-li Fu).....	271	109
From Ch'u-hsiung Fu.....	394	232
From Yun-nan Fu.....	491	329
From Ssu-mao T'ing.....	434	185

But the improvement of the trade between Burma and Yun-nan would be only one object of this extension to Yun Chou. It would also be the first step in the joining by railway of India with Shanghai. Having thus given an earnest of our intention to connect Burma with Yun-nan Fu, we should be in a position to enter into negotiation with the French for a joint construction of that part of the line which would join Yun-nan Fu to the Yangtze.

To come now to the question of the trade of Yun-nan. The most prosperous part of the province is that which comprises the series of fine plains which lie to the north, the east, and the south of Ta-li Fu (lat. $25^{\circ} 42'$, long. $100^{\circ} 10'$). The commercial centre of this region is Hsia-kuan, which lies eight miles south of Ta-li Fu. All this country and even places south considerably to the east of this are at present supplied from Burma, for from Hsia-kuan to Lao-kai on the Tong-king border is considerably further than from Hsia-kuan to Bhamo.

When the French railway is completed from Tong-king to Yun-nan Fu, while the Burma railway terminus is still at Lashio, this advantage will disappear. For from Hsia-kuan to Bhamo is 280 miles against 220 miles from Hsia-kuan to Yun-nan Fu. I have taken Hsia-kuan as an instance, but naturally with the trade of Hsia-kuan would lie nearer to Yun-nan Fu than to Bhamo or Lashio.

If we sit still and do nothing, we shall therefore lose the trade of a great part of even Western Yun-nan. But if we construct our railway even as far as Yun-Chou, we shall easily retain this, for from Hsia-kuan to Yun-nan Fu the French terminus is 220 miles, and from Hsia-kuan to Yun Chou 109 miles.

There is, however, another railway project which must be noticed here—the proposed line from Bhamo to T'eng-yueh (Momi) (lat. 25° , long. $98^{\circ} 30'$). A survey of this route has been made; the distance by the line that a railway would follow is 122 miles and the approximate cost is estimated at less than a million pounds.

Though there is no railway at present at Bhamo, this place is connected by river steamers with Rangoon and with the railway system of Burma at Katha, and would thus form a suitable starting-point for a railway into Yun-nan. It is moreover by the Bhamo route that most of the present trade between Yun-nan and Burma is carried on, and the line would thus have the advantage of following a well-established trade route.

The construction of a railway between Bhamo and T'eng-yueh would be, comparatively speaking, an easy and cheap undertaking, and it would doubtless pay after a time. Taken by itself it would be a most useful line, but before committing ourselves to its construction and the abandonment of the Kun-long-Yun Chou route, it is essential to ascertain whether an extension eastward to Hsia-kuan is possible.

In the north-east corner of the T'eng-yueh plain there is a gap in the hills through which the line could probably reach the Shweli from the Salween, and beyond this the valley of the Mekong running between wall-like ranges of hills, are likely to prove extremely difficult obstacles to the further progress of a railway. It would not, however, be safe to pronounce these obstacles insurmountable until the results of further reconnaissances of this country are made public.

A line to T'eng-yueh only (if extension eastward proves impossible) not only does not get us any further in the joining of India and Eastern China, but it is extremely doubtful if it would be effective in retaining for us the trade of Hsia-kuan, a place which I have already mentioned

THE YUNNAN RAILWAY

The completion of this road has been announced. The following information has appeared in *The Times* from a Paris correspondent:

The course of the line was surveyed in 1900 and 1901. It traversed the Nam-ti valley, passing near Meng-tsz, reaching Ami-chu at the 139th mile and Y-Lang-Hsien at the 251st mile with the terminal station at Yunnan, giving a total length 292 miles. The scheme was adopted in 1901 and was estimated to entail an outlay of £3,800,000. The transport of the requisite materials gave rise in the first instance to serious trouble.

The construction of the railway was definitely approved early in 1904, when the works were put in hand. At the date the railway from Haiphong to Lao-Kai was still unfinished, and was not expected to be ready until 1906. This involved a great increase in cost, as the material had to be transported by wagons, barges, and mules. Another difficulty was caused by the scarcity of labour in the country traversed, for contrary to expectations, it was found to be very sparsely inhabited, and workmen had to be brought from places as far distant as Canton and Tientsin. During the month of October, 1906, and throughout the year 1907, when the work was expedited to the utmost, there were not less than 60,000 people employed, 40,000 of whom were actually engaged on the construction. The capital originally estimated to be required was found to be

as the most important commercial centre in Yun-nan. The distance from T'eng-yueh to Hsia-kuan is 159 miles and from Yun-nan Fu to Hsia-kuan 220 miles. The balance of 61 miles is perhaps enough to ensure the retention of this trade for the present, but it must be borne in mind that the French by extending their line westward can bring the advantage in distance over to their side.

Moreover Yun Chou is much more favorably situated than T'eng-yueh for increasing our trade with Yun-nan. T'eng-yueh is already connected with Bhamo by a mile road which has been shortened and improved in the last few years. Were the railway extended to Yun-Chou the trade between T'eng-yueh and Bhamo would doubtless continue as usual. But Yun Chou is so situated as to be much nearer than T'eng-yueh to many places which trade with us already, and to many more with which we at present have practically no dealings. Yun Chou has also the great advantage that, lying as it does far to the eastward of T'eng-yueh, it is in a much better position than the latter town to compete with the French railway.

The following table of distances will make this clear:

	Distance in miles to T'eng-yueh.	Distance in miles to Yun Chou.
From Yung-ch'ang Fu....	61	100
From Yun-lung Chou....	122	180
From Hsia-kuan.....	159	109
From Li-chiang Fu.....	264	222
From Shun-ning Fu....	137	24
From Ching-tung T'ing..	263	102
From Mien-ning T'ing...	216	55
From Wei-yuan T'ing....	268	107
From Ssu-mao T'ing.....	346	185

It will be seen from this that Yung-ch'ang and Yun-lung are the only two places of any importance which are nearer to T'eng-yueh than to Yun Chou, while in the case of Yung-ch'ang the distance between it and Yun Chou is so small that the Yun-Chou railway would be very useful to that place.

Hsia-kuan, the centre of the richest part of Yun-nan, is brought considerably nearer, and the last five places can be brought into trading relations with us where they would hardly be affected by a line to T'eng-yueh.

Still if it turns out that it is feasible to extend the T'eng-yueh line to Hsia-kuan, this route certainly has some advantages. There is no denying the fact that the railway to T'eng-yueh can be much more easily and cheaply constructed than that to Yun Chou. This undoubtedly makes it the more tempting project of the two to statesmen hampered by financial considerations. But, unless the possibility of an extension eastward is proved, it would seem well to think twice before committing ourselves to a merely local line, and renouncing the project of through communication between India and Eastern China.

To summarise shortly the conclusions arrived at:

1. The construction of the whole line from

wholly inadequate and the cost has reached £6,600,000. In consequence of an arrangement made with the French Government and the colony of the Indo-China, the requisite funds have been raised, and in spite of serious financial embarrassments, no delay has been caused to the work.

The line is of metre gauge throughout; the maximum gradients between Chen-Kiang and Yunnan are 2.5 per cent, and between Ami-chu and Chen-Kiang they amount to 1.5 per cent. The minimum radius of curves is 5 chains. There are 147 tunnels, with a total length of nearly 9½ miles. The altitude above datum at the starting point at Lao-Kai is 295 ft., while at the 93rd mile it reaches a height of 5,576 ft. From this point the line descends in the direction of Ami-chu, situated at an altitude of 3,486 ft.; it attains at Chen-Kiang an elevation of 5,362 ft., and at Chouci Tan a height of 6,624 ft. At the terminus, at Yunnan, the altitude is 6,186 ft. above datum. The rolling stock now actually in use consists of 51 locomotives, 106 coaches, and 530 trucks and vans.

The railway already obtains an important amount of traffic proceeding in the direction of China. The passenger traffic in 1908 included 61,811 Europeans and 1,478,077 natives, while the receipts for that year reached approximately £120,000.

With the completion of the French railway to Yunnan, the Chinese have demonstrated considerable interest in prolonging the road

Kun-long to the Yangtze is too vast a project to be undertaken at once.

2. But if we are content to do nothing in the way of railway extension into Yun-nan, the French will in the future be in possession of the greater part of the line which will some day connect India with Eastern China, and will also be in a position to take from us the trade of Western Yun-nan.

3. To counteract this the Burma Railway should be extended from Lashio to Kun-long and the Yun-nan Railway constructed from Kun-long to Yun Chou, with a view to its gradual extension eastwards in the future.

4. If the proposed railway from Bhamo to T'eng-yueh can be extended eastward to Hsia-kuan, it must prove a formidable rival scheme to the Kun-long route, but if T'eng-yueh is to be the terminus it is likely to be ineffective in retaining the trade of even Western Yun-nan.

Before quitting the subject of railways in China, one more question must be touched on. The Chinese have in the last year or two evidently become alarmed at the power which they consider railway concessions are likely to give to foreigners in China. In many parts of the country agitations have been started with the object of getting all railway construction into Chinese hands. Nothing is more natural than that such ideas should prevail, but if foreign diplomatists are content to give way to these opinions, the opening up of China by railways is likely to be considerably delayed. The average Chinaman would be very chary of entrusting his capital to officials to build a railway; moreover the modest rate of interest paid by a railway company would not be likely to satisfy the trading instincts of the Chinese investor. So far the attempts of the officials to raise money for railway construction seem to have been a failure, and in one or two cases extra taxation has been suggested as the only means—a measure hardly likely to make railways popular.

Quite lately, however, (1907) the patriotic desire of the Chinese to construct railways themselves without the aid of either foreign capital or foreign engineers has in some provinces actually resulted in offers of considerable sums of money from leading merchants and others to be invested in railway construction. Whether the money would be forthcoming for such a hazardous investment as the Yun-nan railway must remain doubtful. However, an encouraging sign for the future is to be found in a recent application made by the Viceroy of Yun-nan for the services of an American trained Chinese railway engineer. That all railways in China should eventually be constructed and worked by the Chinese is both natural and inevitable, and if the Chinese Government would undertake the construction of the line from the Burmese border to the Yangtze, it would be a satisfactory solution to all concerned. Two things are necessary—a sufficient number of skilled engineers, and some honest men to be in charge of the finances. Time will doubtless supply the former, but will honest men ever be found?

northwards towards Szechuen province under their own supervision. This move is undoubtedly intended to forestall any attempt on the part of French interests to claim a concession or right to construct the line. The excessive cost of the Yunnanfu line—over \$60,000 gold per mile—with the consequent high maintenance, operating and fixed charges, combine to establish a high passenger and freight tariff, if the line is to yield a fair return on the capital. While the most optimistic French authorities concede that the line will prove highly remunerative if the tariff is reasonable, there is a larger element who maintain that unless it is prolonged northwards to tap the rich province of Szechuen, the road will never pay, and its upkeep will prove a heavy burden on the Government, who has guaranteed the construction bonds. So, anticipating the completion of the line to Yunnanfu, the French have been preparing public opinion for the necessity of the extension northwards. At the same time China, having learned well her lesson of the last ten years, is planning to checkmate the next move of France.

While the railway just completed has been free from unpleasant diplomatic situations, a deep undercurrent of distrust has been engendered in Chinese official minds through contact with the French railway builders.

The *London and China Express* commenting on this important subject says:

Should the Yunnan Railway be prolonged to Szechuan? Two Frenchmen, who should be in a position to judge, give an emphatic negative to this question. One is M. Robert de Caix, director of the *Bulletin du Comité de l'Asie française*, who has just returned from a twelve months' tour in the Far East; and the other is Commander d'Ollone, recently returned from his explorations in Western China. The latter, speaking at a dinner of the French Colonial Union, said that Frenchmen must definitely refuse their help in financing the Chinese in such a project. In the first place, because the Chinese half of the line, Yunnan-Sen-Szechuan, would take its entire traffic from the French half, Yunnan-Sen-Haiphong, China supplying Yunnan with its needs direct; secondly, because it would enable China to put 100,000 men on the French frontier, thus entirely altering Indo-China's conditions of defence; and thirdly, because in the division of Chinese public works among the Powers, France should claim her share in regions offering better financial results.

Mr. Edward J. Dingle, the Singapore journalist who travelled through Yunnan on foot, in a special article to the *Shanghai Mercury*, says "of the situation":

And while things go along peaceably in the province and just over its borders, the Chinese do not forget that the pet ambition of France still is to take Yunnan as French territory; but China is determined that Yunnan is Chinese, and that Chinese it shall remain. French and Chinese punctiliousness and politeness everywhere synchronise, but underlying the Chinese mind there is a distinct antagonism to the Frenchman as compared with the feeling towards an Englishman. None of the French residents of the capital, although they are invited out by the mandarins and made at times a good deal of fuss of, could say that anything approaching mutual friendliness exists. China submits because she must; but will she always? She does not openly dwell upon the past, but it seems to be her only guide for the future. And it seems that China is telling France that unless she will realise the truth, unless she will learn that the profound opposition between the respective civilisations give no more ground why the French should treat the Chinese as barbarians than they them, unless the Chinese are to be treated as a civilised Power and have respect given to their custom and their law, unless France will accord China the treatment she would accord to any European nation and refrain from exacting conditions she would never dream of imposing on a Western Power—unless she will do this, there can be no hope of peace between the two countries.

With this philosophy China is not content. She is making preparations to be in a position to be able successfully to defend Yunnan in time of emergency. Go any day you wish over the roads leading into the capital and you will find string after string of pack horses laden with foreign ammunition and rifles—in a tramp from Chungking to Yunnanfu, a distance of upwards nine hundred miles. I was never out of sight of this new military equipment. And it is all for the specific purpose of keeping the French out of Yunnan.

During the past few months I have had the opportunity of close observation in Yunnan into the international relations of the two countries, and this, backed up by the guarded replies from several Chinese officials in Yunnanfu, has led me to believe that it is as well that France is maintaining an efficient Annamese army over the border, for the time may come—not yet, of course, because China is not yet strong enough—when China will rise in her might and say: "Please go out; we want, and we will have, no more of you."

This is not exaggeration; it is the candid opinion of a French resident in the capital who is in close contact with everything that goes on from a consular point of view. And this may happen, in a decade or two to all foreigners—at any rate French people think that it is not the intention of the Chinese to allow Yunnan to become their Eldorado.

During the construction of the railway the French employees on the railway did much to stir up the strife, in treating the Chinese in a manner more as barbarians than as the excellent labourers they undoubtedly are.

THE KUANGSI RAILWAYS

The last few months have witnessed a revival of French interest and activity in their dormant claims to preferred railway rights in the provinces bordering on Indo-China.

Article V of the Convention between China and France, signed at Peking the 10th of June 1895, provided as follows:

"It is understood that China, for the exploitation of its mines in the provinces of Yunnan, Kwangsi and Kwangtung, will address itself in the first instance to French commerce and engineers, the exploitation remaining otherwise subject to the rules and edicts by the Imperial Government which affects national industry. It is understood that railways already in existence or projected in Annam can, after mutual agreement and under conditions to be defined, be prolonged on Chinese territory."

Under these provisions and a subsequent exchange of notes in 1897 the right to extend the existing Langson line across the border to Lungchow, but construction operations were suspended at the border. In Mr. P. H. Kent's work on "Railways in China" he refers to the history of French Railway rights in South China as follows:

"At this time the only railway that existed in Tongking was a small 60-centimetre gauge line originally constructed for military purposes in 1886 between Langson and Phulangthuong; no other railways were projected. Ideas, however, existed more or less hazy perhaps, but based on the writings of Francis Garnier, as to the line of country that railways would follow when they came to be constructed and the fact that no definite scheme had been discussed detracted nothing from the value of the rights that had been secured. And here we may conveniently pause and recall the distinction drawn in the chapter introducing the "Battle of Concessions" era, where it was remarked that, like that of Russia, the railway policy of France has been a means to an end; an incident in a larger policy which can only be described as in intention a policy of colonization.

"In the brief sketch in which we have indulged of the expansion of the French Colonial Empire in the south-east corner of Asia lies the proof of the soundness of this conclusion. As Russia descended from the north, so France moved northward, and when it is remembered that four-fifths of the capital required for the construction of the Peking-Hankow Railway was subscribed in Paris, the supposed ambition for a trans-China railroad putting these great

allies into direct rail communication was something more than a Russo-phobe chimera. It was a possible danger that has passed away through war, improved understanding, and other circumstances, but in the frenzied period prior to the coup d'état of 1898 it was a scheme to anticipate and, both in Chinese and British interests, to combat.

"To return, however, we now commence the details of the history of railway progress in South China, and in some measure also of that in Tongking, it being impossible entirely to dissociate the two.

"Our starting-point, with the exception of the light military railway between Phulangthuong and Langson in Tongking, is the fifth clause of the Convention of 1895. This clause, as already observed, seems to indicate the existence of a railway policy, but those responsible for its inclusion in the convention were content to regard it for the present as a foundation merely of future schemes. More pressing internal affairs then engrossed the colonial government to the exclusion of a forward policy, and it was therefore left to M. Doumer to devise a policy and to put it into execution.

"M. Doumer was appointed Governor-General of Indo-China in 1897. Energetic and ambitious, he was perhaps the beau-ideal of a colonial governor. Under his auspices an era of progress was rapidly inaugurated, and the adoption of a considerable railway programme was urged upon the French Chamber.

"Leaving France in January 1897, M. Doumer arrived at his post in the following month. Most of the year was spent in familiarising himself with local conditions, and to ascertaining the railway requirements of the country. Towards the close of the year he was ready with a scheme, which was laid before the Conseil Supérieur of Indo-China.

"It is interesting to note that in introducing his scheme, M. Doumer commented in tones of almost noble indignation on what he was pleased to describe as the hardihood of Great Britain in contemplating the penetration of Yunnan and Szechuen by way of Burmah. He took refuge for himself and his auditors, however, in a comforting reflection. 'Pourtant, si nous savons vouloir, nous devons triompher dans cette lutte pacifique. Nous nous trouvons favorisés par les facilités que nous donne la vallée du Fleuve Rouge pour atteindre le Yunnan.'

for a line to be constructed with Chinese capital. The proposed route will follow the one already surveyed by the French—up through Hsuenwei, Suifu and on to Chengtu.

A correspondent of the *Shanghai Mercury* writing from Yunnanfu, on August 16th, ulto, describes the French project as follows:

For a very considerable time the route has been surveyed, and from time to time rumours have gained currency that the work would soon be started, but up to the present time nothing has actually been accomplished. More than one expert has given the opinion that it is a matter of absolute impossibility to lay down a line here over the mountains, and see no likelihood of the traffic being catered for in any other way than by means of the horses and mules and the coolie labour now used, and one who knows the country and who has known the arduous toil which travel in this part of the country means would quite agree that only by the spending of an enormous amount of money—which would probably never be repaid—could a railroad be built. The mountains are all laid down the wrong way, so it seems. But there are many huge difficulties presented which only a railroad engineer would understand.

In some places the proposed route takes one over country eight and nine thousand feet above the level of the sea, descending the lowest point to three thousand feet.

Leaving Yunnanfu, the present terminus, 6,400ft. high, the route runs through the important city of Yanglin, thence on to Yilong (8,000ft.), dropping again at Maling-chow to 6,980ft., with a gradual descent to Chu-ching-fu, the centre of an important district, itself on the main road. The line would then leave the main road to Kweichow province, at Chanyi-chow, and thence through very mountainous country, would reach Hsuanwei-chow, undulating between heights of 7,500ft. and 6,000ft. The country around here seems impossible.

From Chu-ching-fu, the route is traced through the valleys and over a range of mountains which runs in a northeasterly direction to Weining-chow, 7,500ft. above the level. This is perhaps the most important city in the route up to Luchow on the Yangtze. It is practically on the borders of Kweichow and Szechwan, in a district of surpassing beauty, in the midst of rolling hills

However, it could not be said that the French are not making headway in Yunnanfu; they decidedly are. The hospital is French, the city post office handling most mail matter is French, the single hotel is French, the only foreign emporiums are French; and, as follows, most of the foreign residents are French—the missionaries and the consul general are about the only Britishers in the place. Almost without a single exception all the foreign goods obtainable in the Chinese godowns are French. The French consulate is a palatial building with 120 rooms and spacious grounds; the British consulate is a tumbledown resurrected Chinese house. The French consul-general has with him a vice-consul and an appropriate staff; the British consul-general lives in almost solitary confinement, among none of his own kith and kin. Whatever foreign trade is developed France has secured; Britain is too late, and it seems she can now not do much—there are no British traders there to do it. And with the advent of the railway, if she acts diplomatically France may yet do more and in some measure attain her ends in securing a share of the wealth of the province. But the territory, in my opinion, never."

So it is quite clear that any further extension of French influence in Yunnan will be stubbornly opposed by the Chinese. Under Viceroy Hsi Liang, an elaborate scheme of railways radiating from Yunnanfu was proposed and some preliminary studies and surveys made; and according to the Yunnan correspondent of the *North China Daily News*, all the cities of the province were taxed on the understanding that the revenue was to be devoted to railway construction. The same authority states that none of this money is now on hand for the purpose, intimating that it has gone to fill the pockets of the officials.

However, coincident with the entrance of the French railway into the provincial capital, the arrival of two American railway engineers is also announced. They have since departed to survey a route from Yunnanfu to Szechuen

and lakes and fertile vegetation. Around are mountains rising to nine thousand odd feet. From here the country is more or less unsurveyed.

From Weining-chow, there is also a branch line surveyed going off in a northwesterly direction to Chaotung-fu, thence up to Takwan and Laowatan, and down by the river to Suifu, which is of course connected with Luchow by the main river. This would not be the main route, however. This would run via Yuning-hsien (3000 ft.), on through the more populous country on to Luchow, where the Chungking and Yangtze trade would be handled on the river.

* Luchow is an enormously rich city on the Upper Yangtze.

Whether this proposed line will ever be laid down or not, I do not believe anyone living can tell. If it once became an accomplished fact the exports from the rich province of Szechwan would go ahead by leaps and bounds. As it is the Tonkin-Yunnan line will do much in this direction. Goods for the interior which now go to Shanghai and thence up the Yangtze as far as Ichang by steamer, and thence to Chungking by the risky junk transit through the rapids, will come direct to Haiphong—or perhaps with British goods to Hongkong, tranship for Haiphong, thence by rail to Yunnanfu and overland by pack horse.

From Yunnanfu to Chungking by road is practically a month—about as long as the journey from Ichang to Chungking. So that a great saving of time will be effected as it is, at the same time doing away with the danger of partial or total wreck in the Upper Yangtze.

"M. Doumer's scheme involved the construction of 3,200 kilometers of railway. He thus summarises it:

"Ce réseau, qui doit traverser l'Indo-Chine entière, de Saigon au Tonkin, mettant en communication avec les ports de la côte les riches vallées de l'Annam, reliant à la mer par des transversales les grands biefs navigables du Mékong, pénétration en Chine par la vallée du Fleuve Rouge, aura un développement d'environ trois mille kilomètres."

"The Conseil Supérieur referred the scheme to a commission on the 14th of September 1898, and as a result of their report the construction of a comprehensive system was authorized for the colony, including a line from Haiphong to Hanoi, to follow the valley of the Red River northwards, and to enter the province of Yunnan.

"M. Doumer's next step was to proceed to Paris in order to obtain the confirmation of the French Chamber. This did not prove a difficult task, the scheme being in due course sanctioned by the law of the 25th December of 1898.

"Meanwhile, shortly after M. Doumer's arrival in Indo-China, steps had been taken to remind the Chinese of their obligations under the Convention of 1895, and an exchange of notes had taken place between the French Minister and the Tsung-li Yamen on the 12th of June 1897. At the same time the right to continue the Phulangthuong-Langson line to Lungchow, some forty miles within the Chinese border, had been recognized.

"On this point being satisfactorily settled, arrangements were made with the Fives-Lilles Company to increase the gauge of the Phulangthuong-Langson line from sixty centimetres to one metre, and to undertake the construction of the necessary extensions from Phulangthuong southward to Hanoi and northward to the Chinese frontier. This work was accomplished at a cost of 20,000,000 francs.

"Surveys for the extension on Chinese territory were then undertaken, but subsequently, owing to labor difficulties and on commercial grounds, the scheme was for the time being abandoned.

"This event occurred in the autumn of 1898, while M. Doumer's scheme was still under consideration by the commission appointed by the Conseil Supérieur. Earlier in the same year steps had been taken by the French Government to secure further rights in the south of China. The action of Germany, Russia, and Great Britain in the north had afforded the necessary opportunity, and in order to equalize matters, on the 12th of April 1898, China acceded to the following demands on the part of France:

"1. Kwangchauwan to be leased as a coal-mining station to France.

"2. The right to construct a railway to Yunnanfu from the Tongking frontier.

"3. A promise to be given not to alienate any territory in the three provinces of Kwangtung, Kwangsi, and Yunnan which border on the French frontier—

"4. The Chinese Government to agree that if ever they constitute a postal department independent of the Maritime Customs, and if a European is to be appointed as Director

thereof, France shall have an equal right with that of other Powers to nominate a candidate for the post of Director."

"The news caused great satisfaction in Paris, but in London some apprehension was felt as to the intended scope of these arrangements. It was pointed out by the China Association that there was no necessity for these guarantees against the non-alienation of territory, and Her Majesty's Government was urged to contest any arrangement that could in any way be 'held to imply exclusive rights of industry or trade, or anything short of equality of opportunity in commercial and industrial enterprise of all kinds.' The matter was allowed to proceed, however, without further protest.

"A few days later a French missionary was murdered in the region of Pakhoi, in consequence of which the French Minister demanded, as a compensation, payment of an indemnity, the construction of a memorial chapel, and the right to construct a railway to join what was referred to as the 'Lungchow-Nanning line' with the sea-coast. As no previous mention had been made of the grant of a concession for a railway between Lungchow and Nanningfu, Lord Salisbury instructed Sir Claude MacDonald to apply for information to the Tsung-li Yamen. The latter on being approached denied having granted any such concession.

"M. Doumer, however, writing as late as 1905, claims that the concession exists, though in justice to the Chinese it should be remarked that further inquiry, while not freeing the matter from doubt, tends to the conclusion that this claim cannot be sustained.

"On the 8th of June the grant of further concessions was announced in Paris. The existence of the right to continue the Langson-Lungchow line being assumed, it was stated that France had obtained the right to construct a railway between Pakhoi on the Gulf of Tongking and Nanningfu in the West River Valley, thus completing 'the network of commercial roads penetrating South China from Tongking and the neighbouring region.'

"But this was at least a very liberal if not a somewhat incorrect interpretation of the understanding that had been arrived at. The fact was that notes had been exchanged with the French Minister to the effect that France would construct this line if any other Power offered to do so, and it was denied that any agreement giving the railway to the French had been signed. Subsequently, in November 1899, the Yamen, reiterating their former denial, gave a solemn assurance to Sir Claude MacDonald that the only concession that had been granted to France in that region was that for a line between Langson and Lungchow, a distance of some 40 miles.

"Since that time no further concessions have been obtained, and therefore at the present time the right to construct this line, and that to Yunnanfu, must be taken to represent the sum total of French railway rights in South China."

With Mr. Kent's clear exposition of the situation before us, one of the most significant phases of recent Chinese railway history is told in the following paragraph from the Shanghai local press under date of January 5th, ulto.

Peking, Jan. 5:—"The French Minister has demanded of the Waiwupu, that the concession promised some time ago to a French Company for the building of a railway from Lungchow in Kuangsi, up to which place the railway runs from Hanoi, to Nanningfu be given to the said French Company. The gentry of Kuangsi have lately protested against the building of this railway by France, as they intend to build it themselves. The Board of Communications had thereupon authorized the Governor of Kuangsi to let the Chinese Company make the necessary surveys."

The Board of Communications has dispatched the Engineer of the Peking-Hankow Railway, Hsi Chi-ping, with a party of surveyors, to Kuang

si, to map out the road for the benefit of the local officials and gentry who propose to build the line. The indications are that China will strain every political and financial resource to build these lines herself rather than concede the demand of the French Minister.

It will be remembered that early in 1906 it was reported that the Central Government at the request of H. E. Chang Ming-chi, the Governor of Kwangsi Province, ordered the Board of Finance to draw the amount of one million taels from the government treasury for the expenses of the newly organized Kwangsi Railway Company line, because the amount was produced by the sale of substantial official rank in Kwangsi.

After being informed of this matter, it is asserted the Wai-wu-pu sent a long telegraphic despatch to the Governor of Kwangsi explaining that there was some misunderstanding among the natives of Kwangsi concerning this railway enterprise. The concession for building the Pakhoi-Nanning Railway was granted to the French Government at the demand of M. A. Gerard, the French Minister in Peking in 1899, by the Tsungli Yamen. The Chinese Government agreed to build that line with Chinese and French capital. According to the terms of the agreement between the Chinese Government and the French Minister concerning the Lungchow Railway any extension beyond Lungchow should also be constructed by a joint Stock Company formed by Franco-Chinese capital.

The French Minister demanded permission to start this enterprise in 1904.

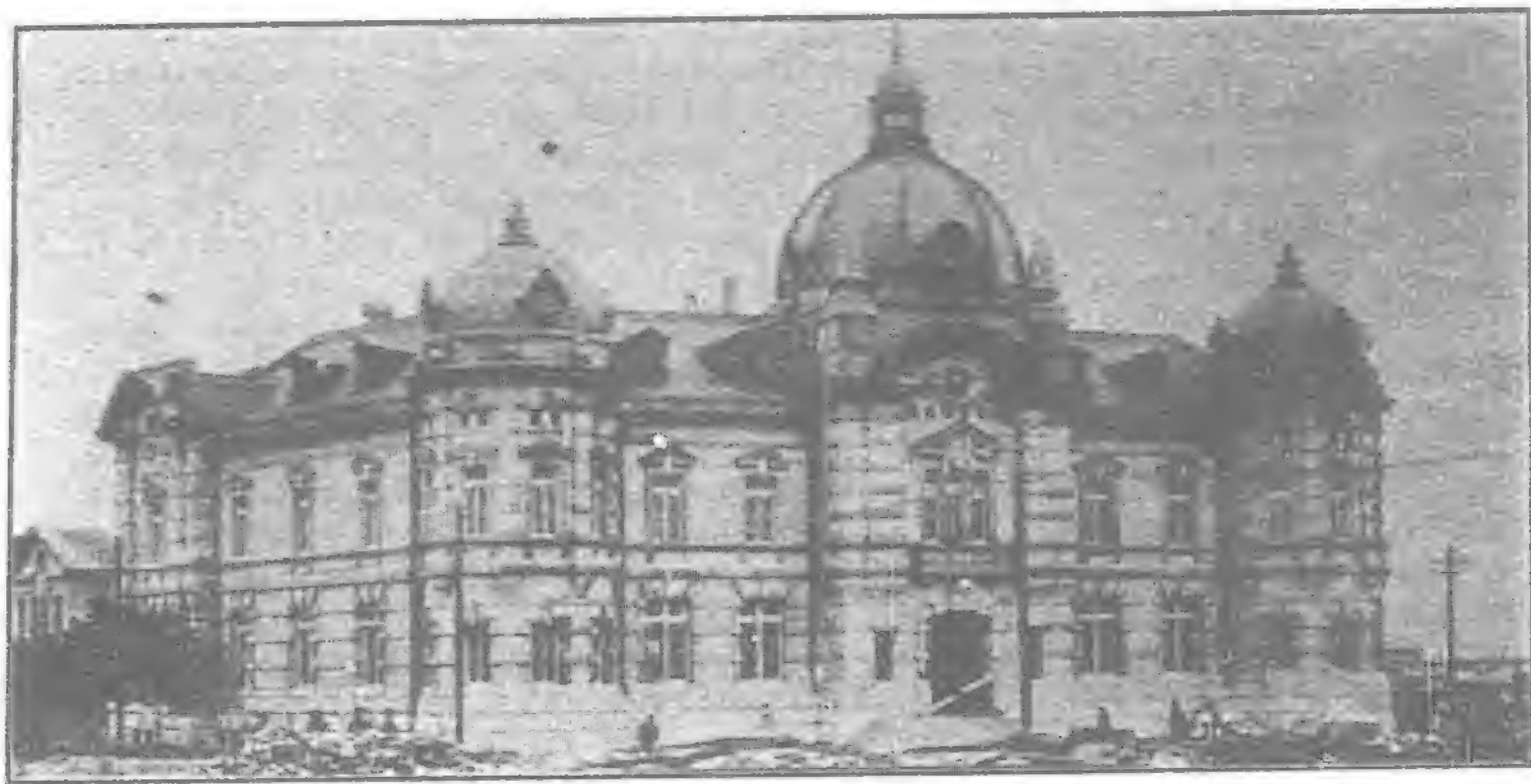
The fact that France has at this late date revived her claims and demanded the concession to Nanningfu, is somewhat disquieting in view of the solemn assurance given to Sir Claude MacDonald by the Tsung-li Yamen—that the only concession granted to France was for a line between Langsen and Lungchow, a distance of some 40 miles.

A few years ago, the news of such a demand from France would have aroused bitter criticism from the British press, and their Legation at Peking would have solicited some further assurance from the Chinese government that the request be refused. But so far apparently this new item has failed to stir British public opinion.

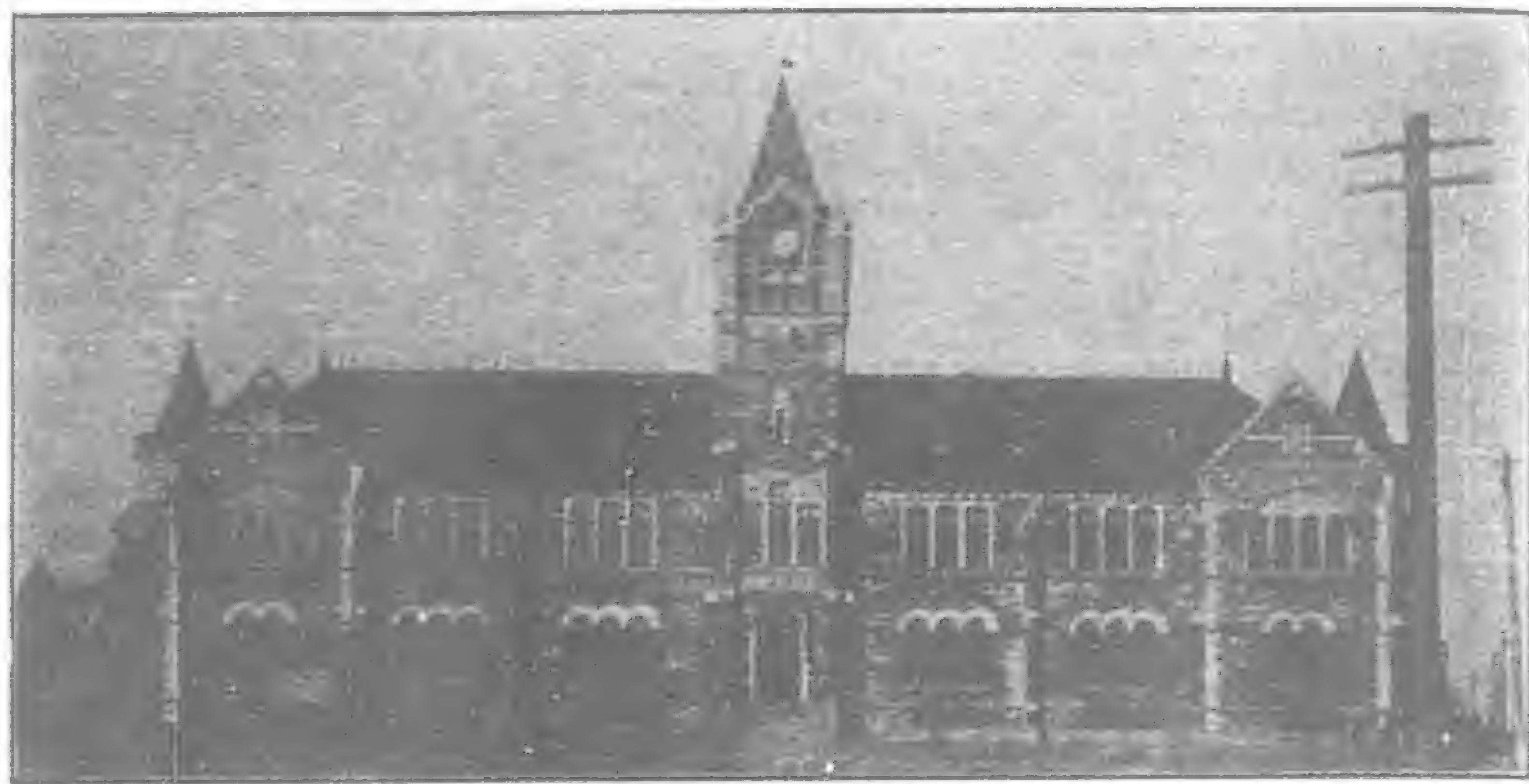
The silence of great Britain is all the more marked, as British capitalists have already invaded the province seeking concessions and contracts. The correspondent of the *Norih China Daily News* at Kweilin, the provincial capital of Kuangsi, under date of Oct. 29th ulto., writes:

"There are at present in the city four Europeans, representatives of Messrs. Pauling & Co., who have just returned from making a survey of the road between Kweilin and Tsuenchow on the Northern frontier of the province, with a view to a railway between these two places. Whether this survey will lead to anything definite or not, is not yet certain, for although no difficulty was met with on the road in the way of family cemeteries, etc., as has been the case so often in other parts of China, yet the financial support so far given to the project has been so poor, that it is doubtful whether the line, if it depended on this alone, would materialize for some time to come. The gentry in the South are very desirous that a line should be run connecting Nanning, Pose, Wuchow, and Pakhoi, and so are not willing to subscribe to a venture from which they could not hope for personal advantages. The principal reason d'être of the Kwei-Tsuen line would be of course to connect the capital with the Yueh-Han Railway. This would require, however, the financial co-operation of the Hunanese, which they are not willing to give, as the advantages to be gained would be greater for Kuangsi than for Hunan. Yet the affair is judged to be of great importance by both the Central and Provincial Governments and now that a projected foreign loan has fallen through, we learn that the money may be raised by the joint efforts of the Provincial Treasury, the Ministry of Communications and the Military Board. As the province was exempted from subscription to the Boxer indemnity, there is in reserve between two and two and a half million taels, which may be devoted to this object and this amount would probably cover half the cost of the line."

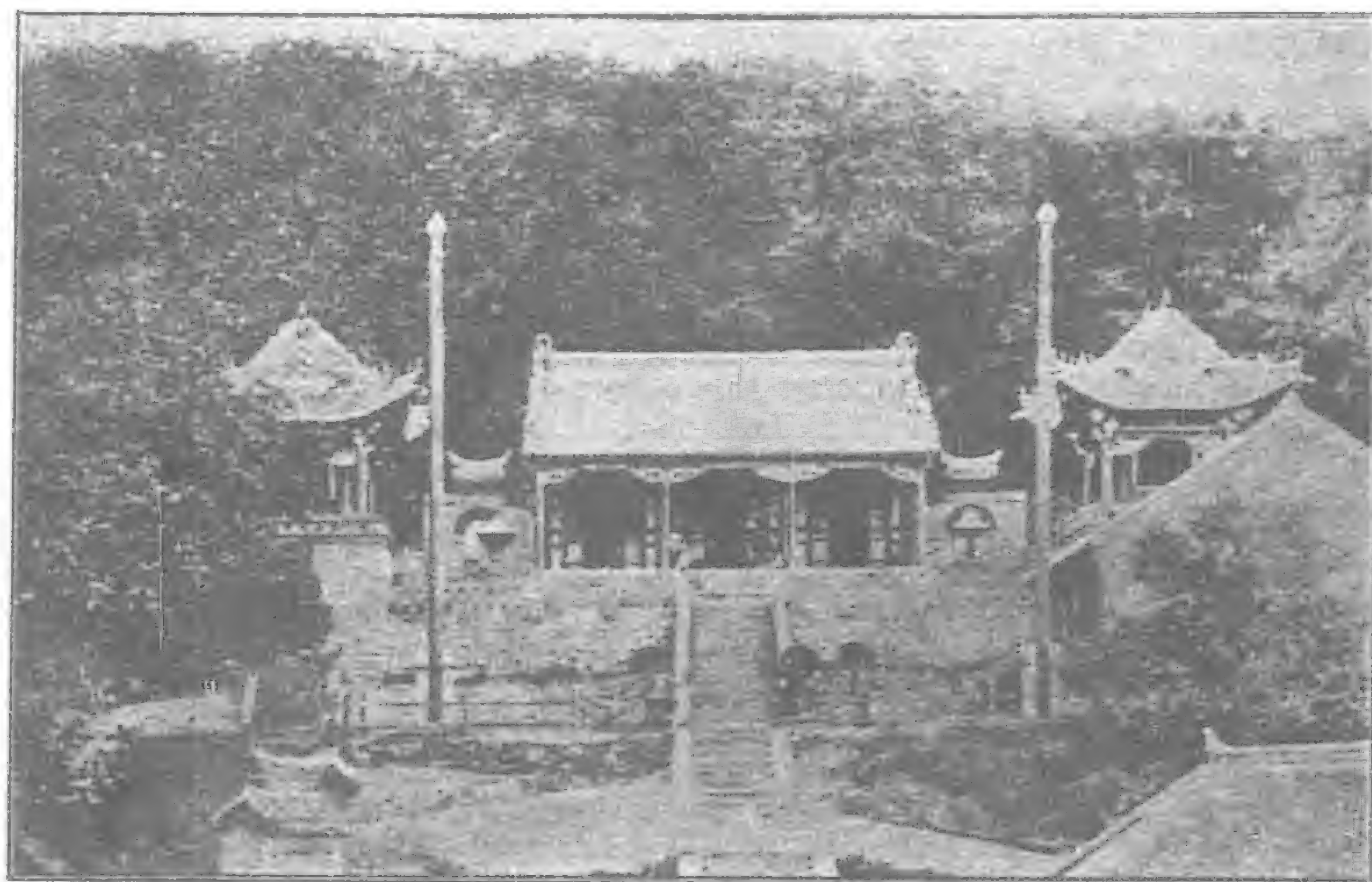
It is apparent that any scheme of railways for Kuangsi must include not only a connection for the provincial capital at Kweilin with the Canton-Hankow line, on the north, but also an outlet to the south along the Kwei Kiang to Wuchow. Both British and French include Wuchow in their rather hazy "spheres of influence" in South China, and the fact that British interests have taken the initiative in invading the territory, may explain the demand of the French Minister for a share in its development, by the Nanning concession.



THE NEW EDIFICE OF THE YOKOHAMA SPECIE BANK



THE CIVIL ADMINISTRATION BUILDING, DAIREN



KIRIN: THE GOVERNOR'S SUMMER YAMEN



MAIN STREET OF TIEHLING, A GREAT BEAN AND GRAIN CENTER

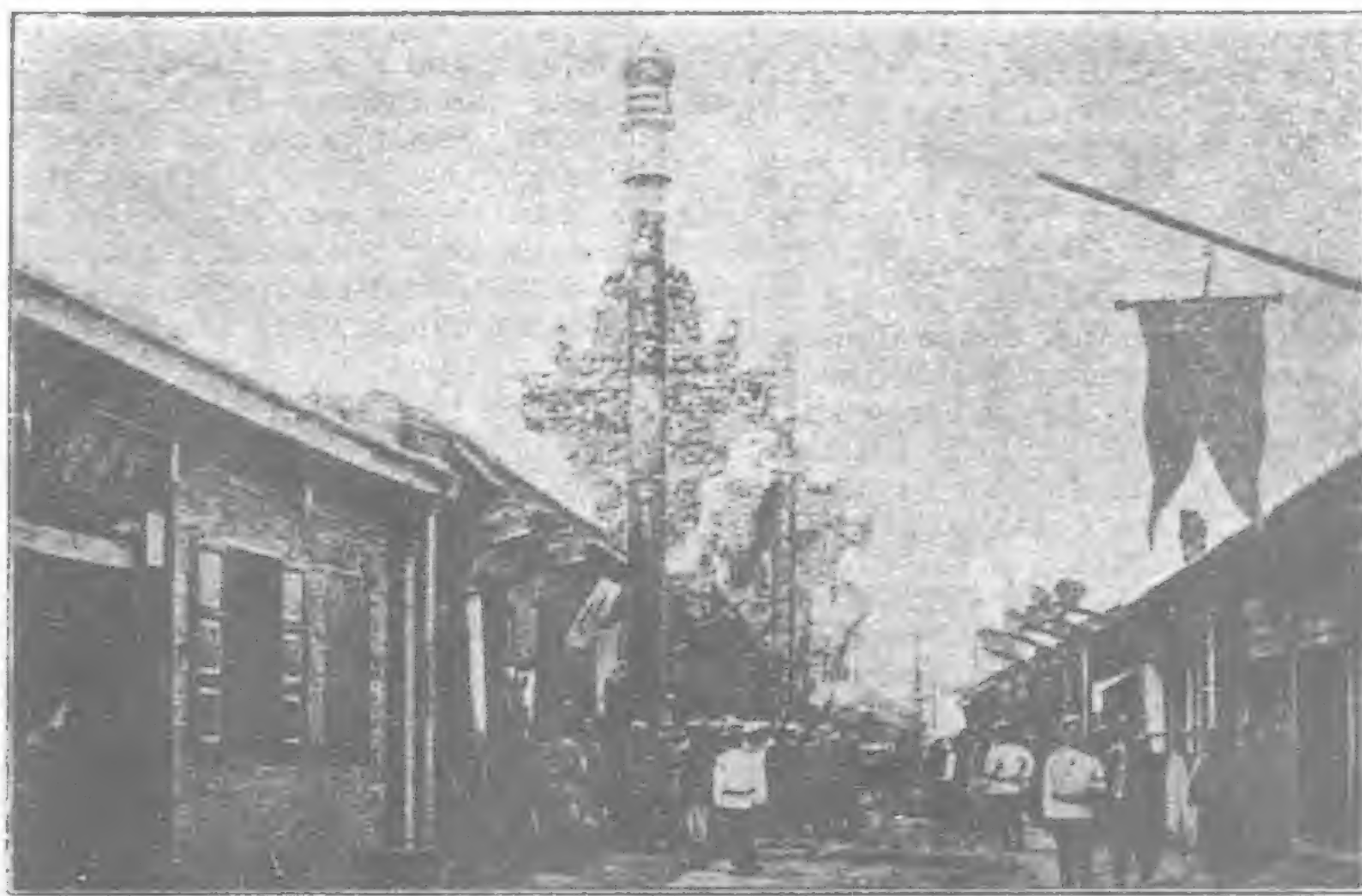
(Continued from page 461.)

THE SOYA BEAN AS A FOOD PRODUCT

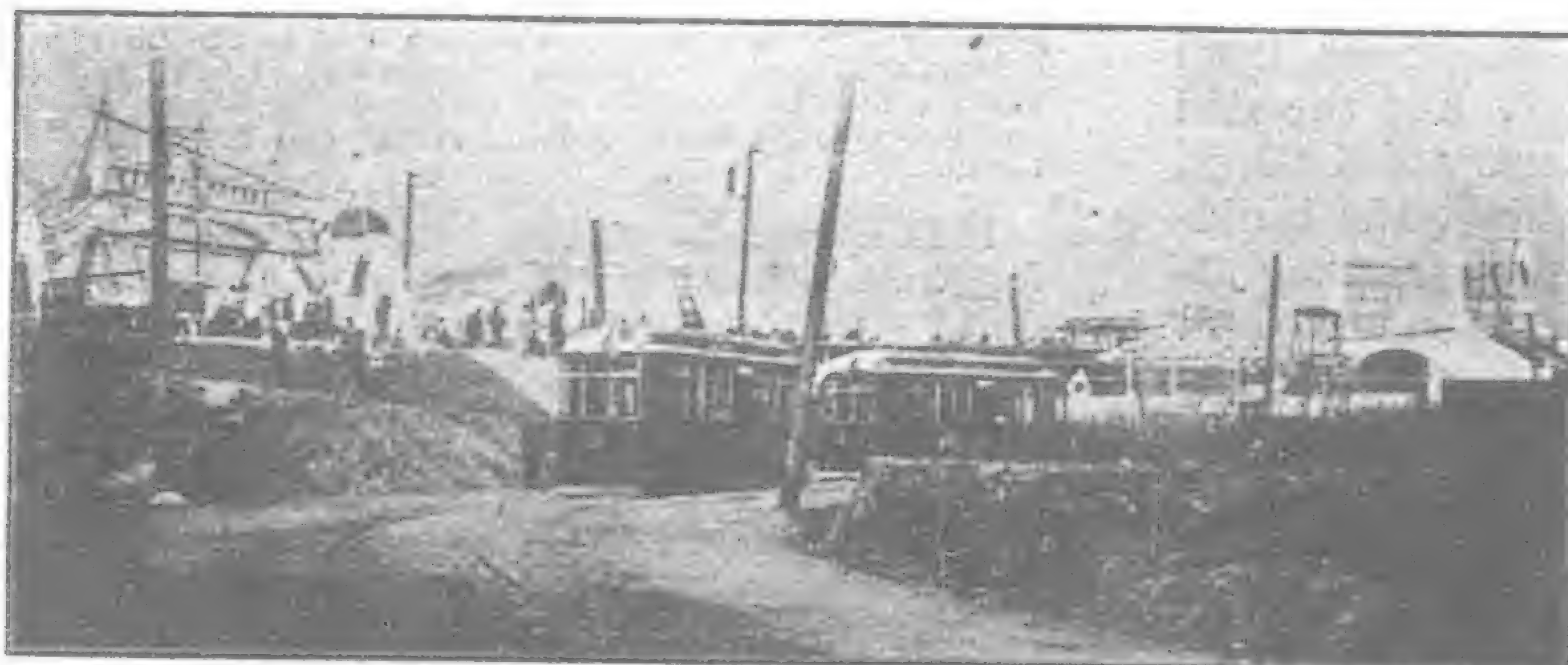
The British Vice-Consul at Dairen, Mr. E. L. S. Gordon, in his report on the trade of that port for 1908, gives a word of advice to those who may be desirous of engaging in the bean trade at Dairen.

Most of the beans sent down to Dairen come from the districts north of Mukden, Changchun being the principal market. People will only incur losses if they merely have an office in this port and buy beans in the local market; it will be essential for them to travel in the interior and visit the country markets to make economical purchases.

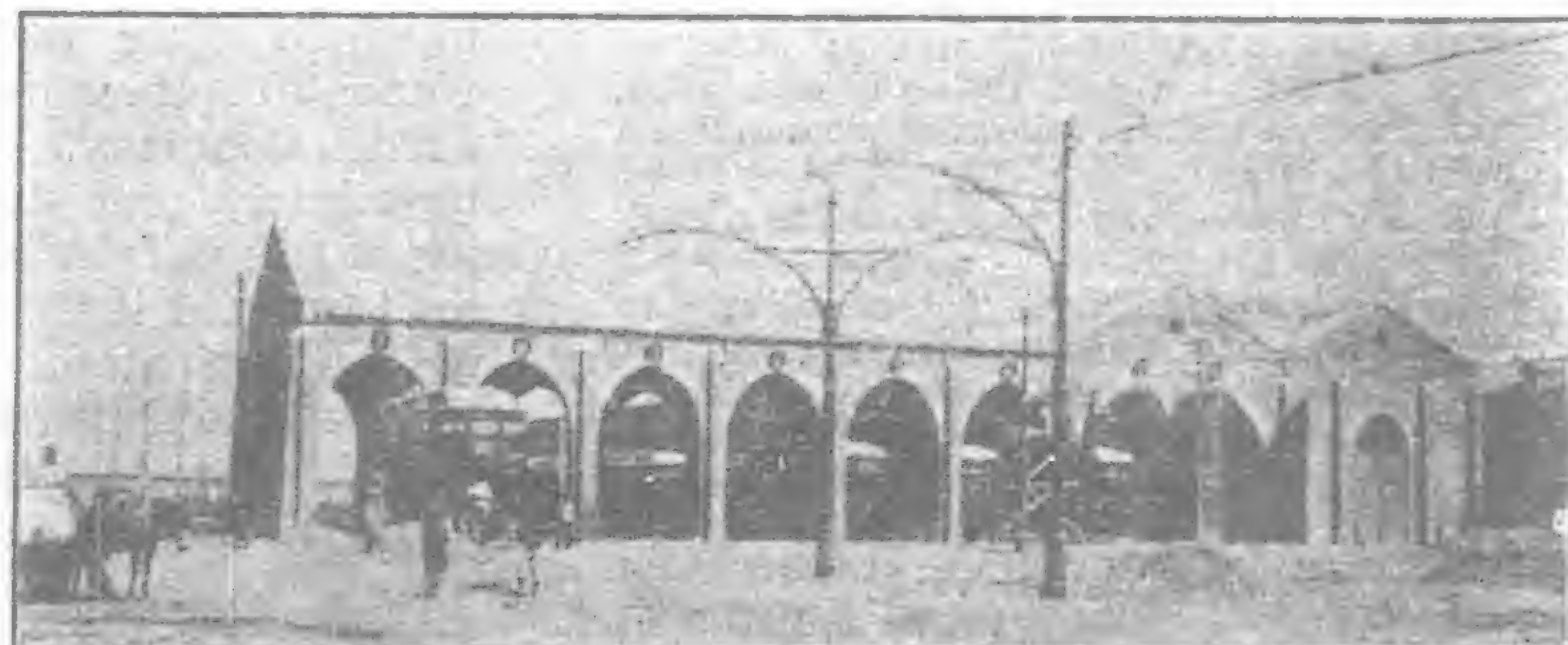
The manufacture of bean cake and the extraction of oil from beans has long been undertaken in Manchuria. By the present method, using hand presses, the amount of oil extracted from the beans is about 8 per cent. At one mill in Dairen, which is fitted with hydraulic presses, nearly 10 per cent. can be obtained. The quantity of oil in the soya bean is from 16 to 17 per cent., and by improved processes it should be possible to extract practically the whole of this, and still make from the fragments as good a quality of bean cake for fertilizing purposes as is made now.



THE STREETS OF NEWCHWANG



THE "WHITE CITY," TERMINUS OF THE TRAMWAY SYSTEM, DAIREN



ELECTRIC CAR HOUSE, DAIREN

In 1907 there were at Dairen two large Japanese mills for the manufacture of bean cake, in one of which steam is used as the motive power, while in the other electricity has been adopted, and a few Chinese mills where the old native method has been retained. During 1908 some 17 Chinese factories have been added, and more are in contemplation. The increase is likely to continue, though possibly not to the same extent, for economic reasons. A better price can be obtained for bean cakes made at Dairen than for those brought down from the interior, as the latter are apt to get damaged in the course of transportation; the demand for bean cake as manure in other countries is steadily increasing.

The manufacture of soap from bean oil has been tried with good results. The soap is easily soluble in hard water. A cake made in the laboratory at Dairen weighs nearly 2½ ozs. troy, and the cost of manufacture, including wrapping and scenting, is said to be not more than 3d. per cake, or 2½d. per lb.

As a matter of fact analysis of the soya bean gives from 17.5 to 19 per cent of oil. The Chinese, with their crude crushing and pressing operations, only secure an average of 6.5 to 7 per cent in oil, leaving over half the oil in the cake. This is what makes the cake itself so valuable, as the high percentage of oil left in the cake

soluble in benzine, every particle is taken up and dissolved and carried away with the benzine. Steam is then applied and the benzine is evaporated and carried through pipes to a cooling tank, where it is condensed and employed again. The oil is left clear from impurities. The extraction by this method averages 17 to 18 per cent leaving less than 1 per cent in the meal. This meal is sold as fodder and has a high nutritive value. An enterprising firm of British manufacturers are now making biscuits from the soya bean meal obtained through the chemical extraction. This new process opens up immense possibilities for China, and provides a new and cheap food product for the people. If by the application of the chemical process, the highest oil extraction is obtained, and the resultant meal is suitable for human consumption, in the form of biscuit, its economic value is greatly enhanced. The prohibition of cereal exports by the Chinese government in Manchuria is due largely to a desire to save

knows, for a fact, that whole families are existing on the scantiest rations, simply because the bread-winner was unable, during the working season, to earn more than a bare pittance, and could not save enough to buy the simplest needs of his family, at more than double the normal prices, such as are now ruling. At the end of last summer and in the early autumn, a few big hong, native and foreign, arranged for heavy contracts of grain and caused a tremendous boom for export. These huge contracts are being forced through with all the pertinacity of modern Shylocks, regardless of all consequences to the suffering masses, who, unless protected by a wise paternal Government, are quite helpless. It may be argued that the laws of supply and demand will balance things, and that the country, in the end, will gain, but this is a question not so easily settled off-hand, and calls for wisdom in the rulers. In the meantime, let it be noted, and noted well, that a fierce fire is burning in the hearts of tens



makes it profitable to again treat the cake with modern machinery and extract the remaining oil, and its food value is higher for cattle. With modern hydraulic presses, compressing the crushed beans into a thin cake, it is possible to extract 14 per cent of oil. This process, however, cannot be successfully followed, as the Chinese and Japanese market demand the thicker cake to which they have become accustomed. Any departure from "old custom" by making the cake of different size or thickness, is sufficient to destroy its marketable value as fertilizer. So, while the hydraulic process can obtain 14 per cent, by proper handling the exigencies of the cake market compel the manufacture of the thick cake, with a resultant oil extraction of about 11.5 to 12 per cent.

A new oil extraction process by purely chemical action has been perfected by the firm of Rose, Downs & Thompson, Ltd., one of the oldest oil machinery firms in the world. This bids fair to overturn existing methods, through the higher extraction of oil. The beans are first crushed fine, and steamed, then mixed with petrol spirit, or benzine. As oil is

the grain for home consumption and prevent famines. A few thousand taels appropriated by the Chinese officials to erect a factory along these lines and conduct further experiments might result in untold advantages for the country.

The Newchwang correspondent of the *North China Daily News*, under date of February 14th, ulto., states the situation as follows:

"The distress in this port is—amongst the poorer classes, and these number four-fifths of the people—very acute; the same applies, and the reports are true, to up-country towns. Manchuria, a land of plenty, has, this winter, thousands who are barely half fed, whilst a few rich speculators, native and foreign, are growing very rich.

"Hatred towards the authorities in general, and towards certain foreigners in particular, is growing intensely, and unless the Government steps in and controls the price of millet, at the least, there may be serious trouble. It is all very well to let the beans go out of the country freely, but other cereals, on which the very life of the masses depends, should, as in the past, be under some control. The writer

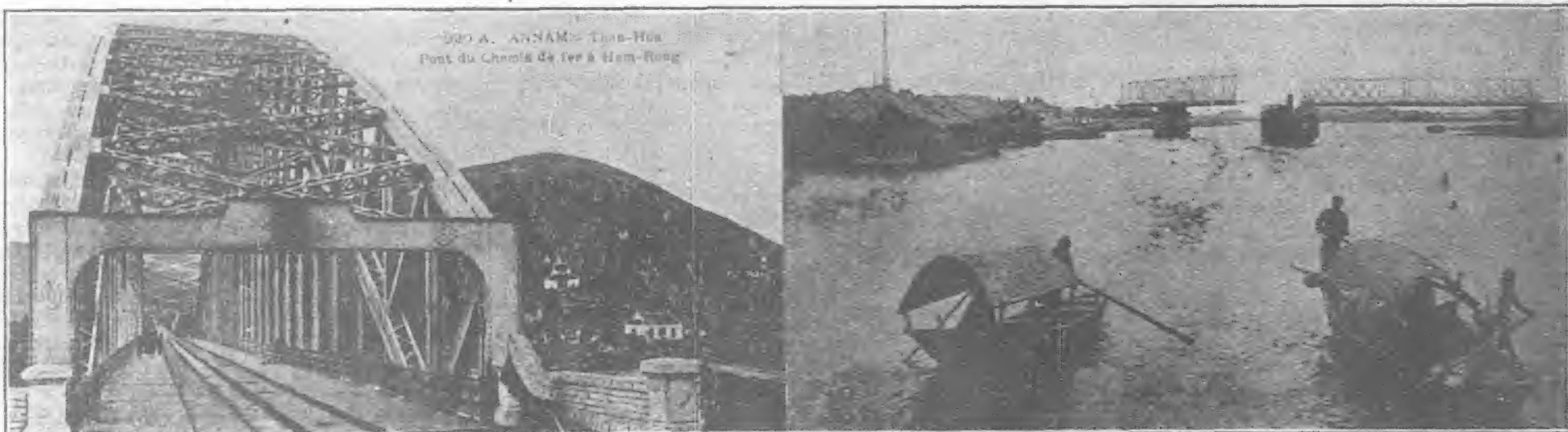
of thousands of half-starving human beings, who cannot see or understand why they should suffer so cruelly, in order, as they firmly believe, to allow a few rich men to increase their wealth."

A wise government would look deeply into the food value of the soya bean, and provide funds to erect the first factory, and open up a new and unlimited food supply for its starving millions.

A new field is opened to the profitable employment of capital, and it is to be hoped that some enterprising firms will take the matter up.

OIL AND CAKE MANUFACTURE.—THE SOYA OIL BEAN

In a recent issue of the "*Economist*" attention was drawn to the Soya bean trade in Manchuria, and to the rapid rise of the country as an exporter. The Soya bean is becoming an important world article, and probably few products of the soil are attracting more attention at the present moment both here and abroad. In fact, so great is the attraction that the English manufacturers are beginning to fear undesirable



competition for supplies, as America and the Continent are casting envious eyes upon what amounts almost to a monopoly of the trade held by Great Britain at this moment as a consequence of the existing prohibitive import duties on oilseeds in the protected countries. During the past season the English oilseed crushers settled down to a highly lucrative trade and for some months past many of the large mills have set their entire plant running on the crushing of Soya beans, to the exclusion of cottonseed, linseed, and other oleaginous seeds. The supposed shortage of the cotton and flax crops in the United States, and the anticipated shortage of linseed in the Argentine, with the resultant scarcity of cottonseed and linseed products, has found the English market comparatively unperturbed, for the reason that Soya oil and cake can supply most of the requirements as well, if not better, whilst the foreigner is debarred from its use by the presence of high import tariffs. This new industry supplies a good example of the value to the United Kingdom of free imports of raw material compared with the protective duties in other countries. The removal or reduction of the duty on the Soya bean on the Continent and in America would be a great blow to our manufacturers, as the Manchurian bean crop, although amounting to over one million tons, is too limited to allow of a large trade with many of those countries which would only be too pleased, under equal conditions, to import the commodity. As it is, Soya oil manufactured in England continues to rise, in sympathy with the scarcity and dearness of linseed and cottonseed oils, and it is interesting to note that one of the main factors in the advance has been the demand from the United States, which is being supplied by the English crushers. Large quantities of Soya oil are being shipped from British ports to the American seaboard, and the demand is likely to continue; but the trade has already been so large that it is difficult to buy oil for near delivery. The same oil is also being shipped from Japan and China to the United States, as well as to the North of Europe, and here we have—for the moment at least—the only serious competitors of English crushers. These two Eastern countries, in which the enhanced value of bean products is leading to the introduction of improved European manufacturing systems, are making great strides in the oil crushing industry, and will naturally import increased quantities of beans from Manchuria in proportion to the success which they achieve in the export of the oil.

The new season has now commenced in earnest, and from December to April and May as many as fifty steamers have been chartered to load beans at Dalny and Vladivostok for British ports, representing something like 300,000 tons of raw material, or about £2,000,000 sterling value. During the whole of last season the sales to Great Britain amounted to 400,000 tons, so that in the month of December, with twelve months to run, we have contracted for a quantity only 100,000 tons short of the total English trade during 1909. While it is being estimated that Great Britain will require in 1910 double the quantity imported in 1909, the news comes that Japan and China will also want increased quantities next year. The crop barely covered the demands of East and West during the past season, so there is probably some justification for the fear that during the coming season there may be difficulty in supplying the extra demands which already appear certain to be made upon a comparatively limited crop. In America, although the beans have not yet been imported for the reason given, the Government has been at considerable pains to collect all available information regarding this product, with the object—should negotiations for the removal or reduction of the tariff fail—of planting the seed in those parts of the country which would be suitable for its cultivation. In Wisconsin, Massachusetts, and Tennessee, agricultural experiment stations have taken up the Soya bean, and issued extensive reports to the Department of Agriculture, all highly laudatory of the beans as compared with other animal feeding stuffs, such as cottonseed cake and meal, linseed cake and maize, which are the principal feeding stuffs of the

United States. In England, the bean cake is of even greater importance than the oil, representing as it does about 90 per cent. of the raw material. The cake is the residue after crushing, and the analysis compares favourably in oil and albuminous substances with the best decorticated cotton-seed cake and meal, large quantities of which have been imported into this country for many years for cattle feeding. Owing to the low prices of imported beans, bean cake can be bought to-day at £6 12s 6d. per ton in London, whilst cottonseed cake imported from America is as dear as £7 10s. to £7 12s. 6d. In Denmark, a great butter-producing country, some hesitation was shown in regard to the introduction of the Soya bean, as it was feared that the taste of the butter might be affected by feeding cows with Soya cake, but experiments have proved the reverse, and Denmark has secured 25,000 to 30,000 tons of beans for shipment from Manchuria during the next few months for crushing and cake-making. In France and Germany the tariffs are sufficiently high to shut out the article. Powerful interests are nevertheless at work in both countries to have the duty removed or reduced, but the removal of a duty is an object the accomplishment of which is invariably difficult, and it is to be hoped, for the sake of the British manufacturers, that some time will elapse before the large European countries are enabled to receive direct shipments from Manchuria free of duty, which would only increase competition for supplies of raw material and result in a limitation of our export of bean products, both cake and oil.

The bean industry, though old to the East, is new to Europe, so much so that little is known as yet about the Eastern trade, which is responsible for the consumption of the greater part of the Manchurian crop. Reliable information on this head is eminently useful, not to say indispensable, to the British importer, as without knowledge of the local industry it is impossible to follow intelligently the trend of values, which are chiefly dependent upon the demand from China and Japan. In Manchuria the trade is mainly in the hands of the Chinese and Japanese. Bean crushing has been carried on for many years, principally by primitive methods; that is to say, the beans are pressed in circular hand presses in the native factories, of which there are a considerable number in Manchuria, many of them small and ill-equipped, whilst a few are of modern design, and employ steam and electricity as motive power. A portion of the oil is thus extracted, but the cake made is generally an unwieldy product, varying in thickness from three to six inches, contains a great deal of moisture, and is unsuitable for a long voyage, owing to its liability to become heated and unsound. This cake is used chiefly as a fertilizer in Japan and Southern China. During the present season these two countries imported about 600,000 tons of beancake from Manchuria for fertilizing. In this connexion the following questions have been asked, the answers to which are of importance to the British importer:—(1) In the event of bean prices in the United Kingdom reaching high levels, will Japan and China be able to pay enhanced values, and continue to import beancake as a fertilizer? (2) For the same reason will Japan eventually come to rely on phosphates or other artificial manures? (3) If prices continue high in the United Kingdom, will a large quantity of the beans which at present go to the East in the form of beancake tend to come to Europe, thus increasing the available surplus for Europe? In the first place, the beancake as a fertilizer takes precedence of phosphates in Japan, which raises a valuable rice crop. In that country the beancake is considered an indispensable import. The figures available are of considerable importance, as showing that, on the present level of prices, which is a high one for England, there is no likelihood of the East abstaining from competition with Great Britain for supplies of beans. The rates of silver are given first, with prices of beancake free in godown in Japan in yen per 46 piculs:—

	1902	1903	1904	1905	1906	1907	1908
Silver.....	23½	27 1/16	26½	28 7/16	31½	30½	24
Beancake...	1.10	1.14	1.61	1.42	1.52	1.73	1.05
	142 Average.						

At the time of writing the price of beancake is 1.10. In 1908 beancake was cheaper than at any other time during the years under comparison, whilst the average price of the seven years was 1.42. The present price of 1.10 is, therefore, under the average, although the value of beans in England is now between £7 and £7 5s. per ton, according to position, an advance of over 15s. per ton over the average of last year, whilst before the introduction of beans into England prices in Manchuria have been as high as the equivalent of £9 per ton in London. It will, therefore, be seen from the foregoing figures that, whilst the British c.i.f. price is considered dear, in the East fertilizing beancake is comparatively cheap. At the same time, it must be remembered, in comparing present values in the United Kingdom, that freights are this season nearly 10s. per ton dearer than a year ago, whilst all charges in connexion with the shipment of beans and beancake to Japan and China are exceedingly small. The imports of beancake into Japan during the last five years have been:

	1905	1906	1907	1908	1909
	182,000	258,000	320,000	460,000	600,000

These figures are of equal importance, as showing that the import of beancake into Japan is steadily on the increase, and that even during the present season, when Europe was competing for beans, Japan took as much as 600,000 tons of cake, or more than three times as much as in 1905. If the increase in the Japanese imports of cake continues in the same ratio as during the last five years, the future crops will have to be considerably enlarged to provide for the growing requirements of both East and West, as there seems little room for expansion, considering the foregoing details, on an estimated total crop of little over 1,000,000 tons. But there are many reasons why we should see increased crops in the near future, as it is clear that in the past the cultivation of the bean in Manchuria was neglected, firstly, because of the limited market—Japan and Southern China being the only consumers—and secondly, because of the absence of railway services in many districts capable of profitably cultivating the bean. Conditions are rapidly becoming more satisfactory to the native, and fresh producing centres are being opened to trade by the construction of lines connecting with the main routes to Dalny and Vladivostok. On the whole, it may be confidently anticipated that the cultivation of beans in Manchuria will go on increasing in proportion to the impetus given to trade by broader markets and the provision of adequate railway communication in the interior.

An exhibition of Soya beans and by-products from North China, together with photographs of the Soya bean industry, was held at the boardroom of the Manchester Chamber of Commerce on 17th and 18th inst. Explanations and full particulars of the industry were given by Mr. Cavendish Evelyn Liardet, lately returned from China.

At a recent meeting of the Committee of the African Trade Section of the Incorporated Chamber of Commerce of Liverpool, Mr. A. Grenville Turner delivered an interesting address on the cultivation and uses of the Soya Bean.

In the course of his address Mr. Turner stated that it was estimated that this year's crop of Soya beans is likely to exceed 1,000,000 tons. There were about 20 to 25 varieties of the beans, different in color, size, and shape. The beans contained about 18 per cent. of oil, and it was stated that refined Soya oil fetches to-day a higher price even than refined cottonseed oil. The Soya bean, which is an edible bean and can be used in the same manner as marrowfat peas, can be utilized for a number of purposes.

In America an attempt has recently been made there by certain dealers to place the Soya beans on the market as a new substitute for coffee, and sell it under other names at fancy prices. A sample of coffee specially ground from the Soya bean, at the suggestion of Sir Alfred Jones, was submitted, and created much interest. Mr. Turner stated that, according to a recent report issued by the Department of Agriculture of the U. S. A., as Soya beans contain no starch, they have been recommended

for food for people suffering from diabetes. Soya bean cake is used as manure on the sugar plantations of Southern China, and on the rush beds, from which Chinese matting is made. Mr. Turner also stated that the Japanese extract casein from the bean from which they make a milk, which is condensed. Cheese is also made from this milk.

The last number of the *Bulletin* of the Imperial Institute contains some particulars of the uses of the oil extracted from Soya beans:

The oil is chiefly used in this country for the manufacture of soap, and is very well suited for this purpose. It is quoted in the London market at £21 5s. per ton (September, 1909), with crude cotton-seed oil at £23 to £23 5s. per ton. The oil-cake left after the expression of the oil is hard and heavy, and resembles linseed cake, but is lighter in color, and has a characteristic taste recalling that of peas. The nutritive value of this product is approximately equal to that of decorticated cotton-seed cake. Feeding trial with this cake in comparison with decorticated cotton cake have been carried out at the Cumberland and Westmoreland Farm School at Newton Rigg, and also at the Royal Agricultural College, Cirencester. At the former institution it was found that the cows, when fed with Soya bean cake, gave rather more milk than when fed with cotton cake; but the difference was so small that it may be considered that the two cakes are equal in this respect. The proportion of fat in the milk was the same in each case. The butter produced from the milk of the cows fed with Soya bean cake was quickly obtained on churning, but was softer, and of a paler color and somewhat inferior flavor to that from the milk produced by the cows fed with cotton cake. In view of the importance of the trade in Soya beans, it has been considered desirable that attempts should be made to grow the product in other countries than China. The Imperial Institute has already brought the matter to the notice of the Governments of several British Dependencies, and experiments are now in progress in the Cape of Good Hope, Natal, the East Africa Protectorate, and the Gambia. An effort is also being made to stimulate the cultivation of the Soya bean in India. It is stated that considerable additional areas are available for cultivation in Manchuria.

The annual report of the Hull Chamber of Commerce and Shipping states that the Seed Crushers' Committee report that "the mills have been fairly well employed, and for the first time in the history of the trade soya beans have been crushed in quantity." The Hull Seed, Oil, and Cake Association report that "the outstanding feature of the year has been the advent of the soya bean from Manchuria, which marks an epoch in the crushing trade of the United Kingdom. About 400,000 tons have been shipped to the United Kingdom in 1909, of which 153,000 tons have arrived in Hull since March last. There is reason to hope that the soya bean will be a regular article of import."

(*L. and C. Express*, November, 1909.)

THE TARIFF QUESTION.

The soya bean trade has been the subject of some interesting correspondence in the *Glasgow Herald*. Challenging the view that Free Trade has given a virtual monopoly of the importation, Mr. W. H. Raeburn wrote that he understood that the duty on soya beans in Germany had been repealed, and that the Germans were now inquiring for steamers from Manchuria. He added, "Germany imports the seed direct from India, Russia, and the Platte, etc., and protects her seed crushers by a tariff on imports of linseed cake and oil. The effect of this has been literally to shut up her markets against us. Can anyone doubt for a moment that that will be her policy with this new trade? If we may judge by order experiences, not only will Germany supply her own markets, but her surplus will be dumped on ours, and used to compete with us in those countries to which we are presently exporting.... As to the carrying of beans, British tonnage has no preference; it is a matter of open competition. At the same time I rejoice to say that this new trade has been a wonderful help to shipowners, and has been a factor to some extent in turning the tide of depression in the freight market."

To this Mr. James Begg replied that he could not discover that the duty on soya beans in Germany has been withdrawn. He observes that Mr. Raeburn does not suggest that France or the United States have withdrawn their duty, and proceeds:—"Mr. Raeburn does not attempt to deny what my letter claimed, viz., that owing to our Free Trade policy and the Protective policy of our competitors we benefited, first, by getting our beans and bean products at the lowest possible prices; second, by the labour employed and the profit obtained in handling and crushing the beans; third, by the labor employed and the profit obtained in the manufacture of the goods which China takes in exchange for the beans; fourth, by the commodities received from America and Germany in exchange in the bean product. The fifth benefit claimed—viz., the employment and profit given to shipping, mostly British, in transporting the beans and goods inward and outward—he frankly admits.... When a country with 'scientific tariff system' takes off a duty, is that a reason why we should put one on?"

A Dairen firm has recently shipped experimentally to America 500 tons of Indian Maize of Manchuria which is acknowledged to be much superior in quality to the American product. It is expected that this trial shipment will give rise eventually to large numbers of orders from the United States.

GOODS STORED AT DAIREN.

(Jan. 16, 1909.)

Beans.....	88,121 tons.
Bean Cake.....	17,778 "
Wheat.....	1,070 "
Red Beans.....	1,767 "
Kaoliang.....	1,086 "
Indian Maize.....	949 "
Sesamum.....	488 "
Other cereals.....	991 "
Oils.....	349 "
Sundries.....	1,647 "

Total.....113,897 tons.

ARRIVALS AT DAIREN.

(Jan. 16, 1910.)

Beans.....	37,688 bags.
Bean Cake.....	15,174 cakes.
Wheat.....	1,580 cakes.
Red Beans.....	2,374 bags.
Other Cereals.....	819 bags.
Kaoliang.....	568 bags.
Sesamum.....	1,014 bags.
Bean Oil.....	30 baskets.
Sundries.....	325 bags.

SOYA BEAN ANALYSIS.

The following is the table of analysis made in England:

	WATER.	OIL.	ALBUMEN.	SUGAR.	FIBRE.	MINERAL.
S. Manchurian Bean.....	9.23	18.31	24.39	23.97	5.67	6.13
N. Manchurian Bean.....	12.80	17.37	24.36	20.30	4.80	5.98
Hankow Bean.....	12.35	17.80	37.50	23.18	4.47	4.70
Linseed Cake.....	10.20	8.60	30.78	33.20	7.17	10.45
Cotton-seed.....	10.75	23.37	22.39	17.57	4.55	3.45

From the above table it will be seen that Hankow Bean is better suited for food but less profitable for oil making purposes than South Manchurian species. Compared with the cotton seed, the bean in general contains less oil but more albumen and its grounds can be more advantageously used for cattle-feed.

EXPORT THROUGH VLADIVOSTOCK.

Mr. R. M. Hodgson, Vice-Consul at Vladivostock, makes the following suggestions to shipowners as to the terms of charterparties taken up for the export of beans from Vladivostock:—

"There is every prospect of the bean trade in North Manchuria developing into a complicated and highly speculative business. The industry has created interest in many quarters, with the result that the number of buyers is increasing.

American firms have recently entered the market. German firms, in view of the repeal of the duty on beans in Germany, will undoubtedly buy largely; while a well-known Japanese firm, by far the largest operators till now, are believed to be preparing for export on an even greater scale than hitherto. The tendency promises to be for the Chinese merchants to get the business into their own hands, buying from the local producers and selling again to the European firms. At present the practice is for the agents of these last to go into the country and buy with Chinese measurements and money. The business is a very difficult one, and several firms engaging in the business for the first time have bought their experience dearly.

"Shipowners would be well advised, if possible, to change in one point the terms of the charterparties of vessels taken up for the export of beans from Vladivostock. At the most only six berths are available for loading, and it has often happened during the past season that nine or ten steamers chartered for this trade have been lying in the port together. As the charterparty has in nearly every case hitherto provided for lay-days to commence only on the ship getting into berth at the option of the charterer, it has resulted that ships have frequently had to lie idle for three or four weeks at the owner's expense. It would seem advisable for owners, where possible, to insert a clause in future charterparties making lay-days to start from a fixed date."

HALF YEARLY GENERAL MEETING OF THE HONGKONG AND SHANGHAI BANKING CORPORATION

The Eighty-ninth Ordinary Half-Yearly General Meeting of the Shareholders of the Hongkong & Shanghai Banking Corporation was held on the 19th instant, in the City Hall, when the eighty-ninth Report of the Court of Directors was submitted. Hon. Mr. W. J. Gresson, (Chairman), presided and there were present: Messrs. H. E. Tomkins, G. Balloch, J. W. Bando, E. G. Barrett, C. S. Gubbay, C. R. Lenzmann, F. Lieb, E. Shellim, R. Shewan, H. A. Siebs, J. R. M. Smith (Chief Manager), Hon. Mr. E. A. Hewett, Messrs. John Barton, J. W. C. Bonnar, Chun Tong, J. F. Cox-Edwards, H. L. Dennys, W. Dunbar, Ho Fook, J. Johnstone, Lau Pun Chiu, Lo Cheung Shiu, J. M. E. Machado, F. Maitland, G. H. Medhurst, A. H. Ough, W. H. Purcell, T. I. Rose, A. B. Rouse, A. Findlay Smith, N. J. Stabb, W. H. Wickham and Wong Leung Him. The Chief Manager read the notice convening the meeting.

The Chairman, having read the Report already published, said:—"Gentlemen, at our last meeting I remarked that the ease prevailing in the various money markets made it difficult for us to find full and profitable employment for our funds, and as similar conditions have existed more or less during the past six months, it is with no little satisfaction that your directors are able to lay before you the report which I have just read.

In addition to the usual dividend of £2 per share, we are again able to recommend a bonus, of 5/- per share besides adding \$250,000 to our Silver Reserve Fund, which, with the \$750,000 apportioned to that Fund last June, makes an increase of \$10 lacs for the year 1909. This leaves a balance of \$2,028,987.94 to be carried forward, being slightly in excess of the amount brought in from the previous half year. I hope this distribution of profits will meet with your approval.

It is very generally admitted that the past year was not particularly favourable to banking business, especially for a Bank like ours. In times of restricted trade, and curtailment of credit, our deposits increase and yet we must keep our funds in liquid form, ready to meet any revival in exports and imports, the finance of which constitutes the most important part of our business. Your directors have much pleasure in acknowledging that the excellent results attained are due to our capable Staff, whose work shows that they have the Bank's interests at heart, and I am sure you will approve of our having voted them a bonus of 10 per cent. on their salaries. (Applause.)

Turning now to the future, I am glad to say there appears to be better ground than ever for believing that a general improvement in trade prospects has set in. India shows a marked recovery; although the total volume of trade in that country during the past year is not greatly in excess of 1908, it has witnessed a return to more normal conditions as regards the balance of exports over imports, the surplus for 1909 being some £38 millions, against £11,600,000 the previous year, not far short of 1907 when exports exceeded imports by a little over £43 millions. The increased export figures are due to the happy combination of good crops, and high prices, in several of the principal articles of export. In particular I may mention the big export of wheat last season, and the present cotton crop, which is a record in quantity and seems likely to find a receptive and highly remunerative market. The effect of such excellent harvests must mean prosperity to the people, and can hardly fail to bring about a revival in trade, and a return of confidence, which will gradually provide employment for the recent almost unparalleled accumulation of Capital in the chief monetary centres of India.

From the Straits Settlements and Federated Malay States reports are very satisfactory. The high price of rubber has given a great impetus to the development of land for its cultivation. The export of this product, although still considered in its infancy, already figures prominently in the trade returns, and it is confidently anticipated that, in the course of time, the export of rubber from that region will become no insignificant factor in the world's supply. Tin also has benefited from an advance in price, and a year, which opened under somewhat gloomy conditions for the Straits Settlements, has proved to be one of considerable prosperity, with even better prospects ahead. The importance of the tin industry, combined with the vast possibilities of rubber, appeared to call for increased Banking accommodation in the Malay Peninsula, and in deference to the repeated wishes of our friends and constituents, as well as to fortify our position in the Straits Settlements, it was decided to open Sub-Agencies at Malacca and Kuala Lumpur, as mentioned in the Report.

We hear from Saigon, and Bangkok, that rice in Cochin China, and Siam, promises to be full average crops, and as the welfare of the population in those countries is largely dependent on the rice harvest, I hope that the present favorable outlook will be realized, so that we may reasonably anticipate active trade at those important shipping ports, in whose prosperity shipping interests in this part of the world are so intimately concerned.

As regards the Philippines, I am pleased to say that our advices point to brighter prospects opening up for these Islands. The rice crop of 1908-9 was disappointing, but the export of hemp was the highest on record, and the Payne Tariff Bill has proved beneficial to sugar and tobacco, and is calculated to give a stimulus to the cultivation of these commodities. The introduction of more capital seems to be the chief thing required to bring about greater prosperity and in the United States of America they have immense resources to draw upon, as soon as Capitalists realize that there is safe and profitable employment for their money in the Philippines.

Japan, like other countries, has also been passing through a state of depression as regards the import trade, which shows a considerable falling off during the past year. This was largely due to a lack of confidence, and a consequent disinclination on the part of Japanese Banks to finance enterprises so freely as formerly, but this restriction of credit has had the desirable effect of bringing about a much healthier condition of affairs. Crops generally have been excellent, the rice and raw silk figures will both show a record, but unfortunately they have not met very good markets. Rice, I understand, owing to low prices, has been stored by the farmers, and raw silk has also been handicapped by reduced prices in Europe, and a poor demand in America; consequently the circulation of money resulting from abundant harvests has not yet been generally felt

over the country. The value of exports, however, will show a considerable increase over the previous year, and, as money is very easy in the country, it seems only fair to assume that conditions are such as to assist trade and encourage business, as soon as there is a return of confidence and a legitimate demand springs up for goods to replenish stocks, which at present are said to be depleted far below the average of recent years.

Coming nearer home, there seems no doubt that Hongkong and the Southern Ports in China are at last recovering from the long period of depression, which dates back from 1905; one of the most promising signs, so far as Hongkong is concerned, being a gradual improvement in the inquiry for property, which would hardly take place unless it was generally felt that we were entering upon a period of greater prosperity. Chinese merchants have done better than for some years past, and business generally is showing signs of greater activity, more especially in imports. The average price of Bar Silver for the year, is, I believe, the lowest yet recorded, but notwithstanding this, the fluctuations have been confined within narrow limits, compared with what we have been accustomed to see in recent years, the highest price being 24½d. and the lowest 23 1-16d. while for a considerable period the metal remained practically stationary, in the neighborhood of the year's average of 23 11-16d. per oz. As a consequence, rates of exchange, both here and in Shanghai, ruled fairly steady, at a level which has proved beneficial to the development of the export trade. This is particularly noticeable in the exports from the Yangtze, which are greatly increasing, not only in quantity but also in variety, and in the direct shipments of beans from Manchuria to Europe, a new and important feature in the foreign trade of China.

Stocks of piece goods in Shanghai are assuming more normal proportions, and although prices are still out of touch with home markets, they are gradually improving, and indications point to a revival in this important branch of trade. As you will see from the Report, a Sub-Agency to Shanghai Branch has been opened at Hongkew. I am sure it will prove a great convenience to our numerous constituents in that district, and it will also relieve the pressure in some departments in the main Branch Office. It may likewise be taken as evidence that your Directors appreciate the importance of extending banking facilities, as the growth of big centres, where we are established, may call for.

News from North China is also distinctly encouraging. There is said to be a wonderful change in the condition of the people in many Provinces, signs of growing prosperity are well in evidence, and cultivators are gradually extending their spheres, encouraged by the railways opening up new districts and providing better and quicker means of transport than hitherto obtainable. It looks as if the people of China already realize the tremendous advantages to be gained from an extended railway system, and, if this is so, it means the beginning of an impetus to a more forward policy in this direction. It requires no stretch of the imagination to see the benefits to be derived from the carrying out of such a policy.

The subject of Railways is such an engrossing topic to all connected with affairs in China, and has led to so much publicity in the press of late, that doubtless some reference to the question will be expected by you.

During the past year, this Bank has taken a leading part in protracted negotiations with the Imperial Chinese Government, for the financing and construction of an important railway system in the upper basin of the Yangtze. An arrangement satisfactory to the Imperial Chinese Government, and fulfilling all necessary conditions of security, and equal distribution of material benefits among the international groups interested, was arrived at last June. But, at this juncture, the revival of claims in another quarter necessitated a re-arrangement of terms, and a political character was thereupon imparted to the negotiations which has unfortunately retarded their completion.

The delay in the construction of two railway lines of inestimable importance to China, and to the trade of all nations, which has thereby

resulted, is much to be regretted. The days of political spheres of influence in China, upon which many illusory hopes were at one time based, seem past. They have been succeeded by aspirations for equal opportunities to be enjoyed by all, in the development of her vast resources—aspirations which, it is to be hoped, will in time be realized.

The vitality of the Chinese people, their growing spirit of patriotism and their many solid characteristics, are at once a safeguard against the resumption of the policy of spheres of influence, and a guarantee of future progress along national lines. That progress may not keep pace with Western impatience, or be effected in strict accordance with Western ideas, but we must leave China to work out her own problem in her own way, feeling sure that their solution will not be accelerated by vexatious or hostile criticism.

In the meantime, the Imperial Maritime Customs collection for the last twelve months exceeds the record of all previous years but one, the material condition of the people has improved, and Chinese credit in Europe was never higher. The wealth of the country is, in fact, increasing before our eyes. To take one instance alone, the recent phenomenal growth of the Manchurian bean trade, furnishes a striking illustration of the development of a hitherto unrealized resource, and the analogy may confidently be extended to industries in other parts of the Empire, as the process of development continues.

It seems hardly to be contested that the capitalists who are likely to share most largely in the fruits of this development, are those who, free from suspicion of political motives, are prepared to meet the needs of China in the simplest, fairest and most practical way.

I do not think I need detain you longer by making a detailed comparison of the figures in the balance sheet; with our big business, its wide ramifications, and different currencies, we must expect considerable fluctuation in the totals under the various headings. Speaking generally, the figures show an improvement over those of last June, though not quite up to the ones of a year ago, which were the highest on record. Looking back over a period of some years, you will find that our business has been steadily growing, and, with the encouraging trade prospects to which I have alluded, I think you may confidently look forward to a continuance of its growth. (Applause.)

Before moving the adoption of the report and accounts I shall be pleased to answer any questions you may wish to ask.

There being no questions, the chairman moved the adoption of the report and accounts as presented.

Mr. H. L. Dennys:—Gentlemen, we all know the cheery optimism of after-dinner speakers when the blood has been induced to circulate a little quicker than usual, owing, perhaps partly, to the rapid circulation of the excellent wine provided; but the very long and carefully considered statement that has just been made by our Chairman cannot be classed with the cheery speeches delivered on convivial occasions. It is a sober statement of facts showing, not only that there is good ground for hope of an improvement in the future, but that a general improvement in practically all branches of trade from India to Manchuria has undoubtedly set in within the last twelve months.

The political horizon is, I regret to say, at present by no means clear and doubtless this accounts a good deal for the slowness of the recovery; but those to whom, like myself, the Far East has been the near East, for very many years, cannot fail to believe in the future prosperity of an institution which has done so well in the past and which is in such able hands.

Our Chinese fellow-citizens in Hongkong have, I am told by them, had a very successful year and the fact that there is a distinct improvement in the property market locally makes me confident that when the railway to Canton is opened and the new University established the Colony will once more forge ahead and Hongkong Companies, about which I regret to say there has been a good deal of pessimism lately, will again pay dividends sufficient to attract local investors. (Applause.)

I am sure, gentlemen, that you will agree with me that the bonus to the staff is thoroughly well deserved and I trust that when we meet again six months hence the political fever, which at present appears to be retarding the full recovery to health of business throughout the world, will have completely abated and that the Bank will be able to take full advantage of its marvellous position as the leading European financial institution dealing with the vast population of China and we shall then reap the benefit of the 45 years of good solid work that has been devoted to it.

With these very few remarks I beg to second the passing of the report and accounts. (Applause.)

The motion, on being put to the meeting, was carried unanimously.

Mr. A. B. Rouse proposed that the election of Mr. G. Balloch and Mr. F. Lieb as Directors be confirmed and that Mr. C. R. Lenzmann, Mr. H. E. Tomkins and Mr. C. S. Gubbay be re-elected Directors.

Mr. J. Johnstone seconded and the motion was agreed to.

On the motion of Mr. A. Findlay Smith, seconded by Mr. W. H. Wickham, Mr. W. Hutton Potts and Mr. J. W. C. Bonnar were re-elected Auditors.

The Chairman:—That is all the business, Gentlemen, thank you for your attendance. Dividend Warrants will be ready on Monday.

REPORT OF THE BUA MINING COMPANY, LTD.

The report of the directors of this company show a net profit of P12,920 for the year ended December 31st, 1909. The operations of the company have been confined to the development of the Gomok claim and only low grade ore averaging \$7.26 gold has been milled, the percentage of values extracted being about 90. This would indicate a very promising future to the company as this value is estimated to be the lowest to be found in any of the group of claims under its control. The report refers to a loss of P10,000 as the result of the serious baguio that visited the Benguet region last October. Besides the Gomok, the company

ASSETS.

Mining Property.....	P270,605.86
Machinery, Plant, Buildings, Furniture.....	74,847.54
Camote Mine.....	4,717.93
Sundry Debtors.....	3,320.89
Cash Balance.....	1,507.00

P354,999.22

DR.

Mining Labor.....	P18,938.40
Supervision.....	4,800.00
Sundry Charges.....	2,175.66
Supplies.....	13,802.31
Bua Mess %.....	437.86
Depreciation on Machinery.....	8,316.39
Flood Damage.....	3,549.58
Balance c/f.....	12,920.38

P64,940.58

PROFIT AND LOSS %

CR.

LIABILITIES.

Capital, 3,500 Shares at P100.....	P350,000.00
Less unissued capital..	186,660.00
Actual Cash Capital subscribed and paid for to 31st December, 1909.....	163,340.00
1,500 Shares to be issued to original holders of claims when patents are perfected.....	150,000.00
Sundry Creditors.....	28,738.84
Profit and Loss account.....	12,920.38

P313,340.00

P354,999.22

P36,943.54

27,731.35

225.69

P64,940.58

controls 17 claims, but it is its purpose to direct all its efforts to further development of the Gomok as there is every indication that the ore values will increase as the work progresses. In addition to the present equipment of six stamps, it is the purpose of the company to double that capacity this year at an outlay of P60,000. The old plant will be moved to new site above flood level and the additional six stamps added. After this the work of developing the other claims will be taken up. In all during the year, the mill was in operation for nine and one-half months during which time 4,509 tons of ore were milled with a recovery of 1,232.86 ounces by amalgamation and 234.15 pounds cyanide recovery making in all a value of P64,714.89.

Manager Shea makes the following report on the mining operations:

"MINING. Operations have been confined to the Gomok mine, no funds being available for work on any other of the Company's claims.

"The South reef drift has been driven 128 feet during the year and 26 sets of timbers put in place. A crosscut 62 feet in length has been driven, connecting the North and South reefs, and furnishing a thorough circulation of air. The extent of the stoping done on this reef for the year is 350 feet in length and 22 feet in height.

"On North reef thirty feet in height has been stoped, making present extent of stoping on this reef 350 feet in length and 90 feet in height. No drifting.

"A crosscut tunnel is being driven to cut both reefs at a perpendicular depth of 100 feet below the main level, and the North reef was cut at 515 feet from the crosscut entrance, showing 2½ feet of solid reef, which goes to prove that the reefs improve with depth, as in the main level above the point of intersection the reef was small and broken up. The crosscut is being continued to cut the South reef, and, when that is done, upraises will be put through to the main level, and drifting on both reefs will be prosecuted, in order to open up stopes with a view to supplying a mill of greater capacity than the one at present in operation."

The following is the balance sheet and of profit and loss account:

The result of the year's workings is most satisfactory to the shareholders in view of the fact that the operations were confined to low grade ore and under conditions not the most favorable. With the proposed increase of facilities and the development of the richer deposits, the maximum return on investment may be expected. The policy of the company has been most conservative devoting most of its effort to development work and carefully investigating volume and values before expanding.

CONTRACTING NEWS

BUREAU OF SUPPLY, PHILIPPINES.—5,000 meters of railway track, including 1429 pieces, each seven meters long, gauge 750 m.m.; 2900 fish plates; 5,800 bolts; 4,170 ties corrugated steel; 16,680 clips; 16,680 bolts and five turn-outs.—Contract awarded H. R. Cooper & Co. representing Arthur Koppel Co., price P8,695.32. The other bidders were: Messrs. Smith & Ziegler, P10,399.07; Fred Wilson & Co., P11,619.54; Moll Kunzli & Co., P10,500.; Germann & Co., P10,356.

PHILIPPINE BUREAU OF PUBLIC WORKS.—Construction of High School, Nueva Caceres, Camarines.—The following bids were submitted:

Delmar W. Smith, P59,740.00, 300 days; John Gordon, P61,736.55, 270 days; E. E. Calvin, P57,300.00, 250 working days; S. C. Choy, P58,500.00, 300 days; W. W. Coleman, P48,240.00, 180 days; F. D. Hayden, P58,000.00, 300 days.

BIDS OPENED.—Manila Hotel Company.—Manila Construction Company, P539,390 exclusive of driving piles, 420 calendar days; also driving 1700 to 2200 piles at P5.40 a pile, 90 days; Messrs. J. G. White Company to supply all labor and materials at cost, plus 8%; Delmar Smith to supply labor and materials at cost plus 7%; Atlantic, Gulf & Pacific Company bid for driving piles at P6 per pile completed in 75 days; Germann & Co. to supply electric and telephone system, elevators, meters, pumps and fixtures, P58,850.00 and for lighting, including fans, P7,250; S. J. Rand & Co., plumbing and drainage system, P54,998.98, kitchen equipment P15,548.56; Smith & Blossom, plumbing and drainage system, P62,880.00, kitchen equipment complete, P16,228.26.

PROPOSALS FOR FURNITURE.—Chief Quartermaster, Manila.—2800 pieces of furniture.—Open April 2nd, 1910.

PROPOSALS INVITED.—Frozen fresh beef and mutton.—Headquarters Philippines Division, Office Chief Commissary, Manila, P. I., January 3, 1910.—Sealed proposals, in triplicate, subject to usual conditions, will be received at this office until 11 o'clock a. m., April 5, 1910, at which time and place they will be opened in the presence of attending bidders, for furnishing and delivering about six million six hundred thousand (6,600,000) pounds of frozen fresh beef and two hundred thousand (200,000) pounds of frozen fresh mutton to the Subsistence Department, U. S. Army, at Manila, P. I., during year ending June 30, 1911. The contractor will be required to pay all customs duties. The United States reserves the right to decrease the amount advertised for, upon reasonable notice to the contractor, or to increase the amount with his consent. Each proposal must be accompanied with a bidder's guaranty in the amount of \$20,000 or with certified check for that sum on a

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Far Eastern Review

13 NANKING ROAD

FAR EASTERN RAILWAYS

HEHLENGKIANG RAILWAY PROJECT.—The wheat district lying in this province is to be tapped by a light railway between Hailun and Suihwa, a distance of 240 li. The capital is being subscribed by the Chinese merchants and the prospect is bright for the early commencement of work.

TESTING PHILIPPINE HARDWOODS FOR RAILWAY TIES.—The Bureau of Forestry has concluded arrangements with the Philippine Railway Company for a test of the more important woods for sleepers. The company will lay an experimental mile of track in Panay with molave, ipil, yacal, tindalo, dungon, and a few others so that data as to durability may be secured. The different sections will be carefully watched and the changes in the several woods noted from time to time.

BEACON HILL TUNNEL.—The last brick was laid in this important construction in February.

THE SOUTH MANCHURIA RAILWAY DEBENTURES.—For the purpose of increasing the rolling stock, extending the workshops and harbor at Dairen, the floating of 40,000,000 yen debentures was authorized at a recent meeting of the directors. During this meeting President Nakamura stated that in the near future the railway must be prepared to handle at least 4,000,000 tons in one direction.

YOKOHAMA-HACHIOJI RAILWAY.—Negotiations have been concluded with the Railway Board whereby the latter guarantees interest at 3.5% per annum on the cost of construction after April 1 and the charter is to run 20 years. The cost of construction includes paid up capital of 2,900,000 yen and a loan of yen 690,000.

SIAMESE SOUTHERN RAILWAY.—A large consignment of steel rails were received from Belgium last month at Bangkok and Trang while the construction at Singoro and Trang is being carried on by a force of several thousand coolies. At Petchaburi 35 kilometers of earthwork is reported complete and bridge work is underway.

PAKNAM RAILWAY COMPANY, LTD.—The report of this company for the half-year ended December 31st shows gross earnings to the amount of Ticals 78,661.17 and the expenditure Ticals 36,293.72, leaving a net revenue of Ticals 42,100.67. The shareholders received 10% for the half year and, added to 12% for the previous term, made 22% for the year besides paying bonuses and other fees. Of the traffic receipts Ticals 63,767 were received from passenger traffic and Ticals 9,852.62 from freight.

FIFTY YEARS OF INDIAN RAILWAYS.—A White Paper issued by the Government, covering

bank of approved standing in Manila. The bidder to whom the contract is awarded will be required to give bond. Blanks and full information furnished on application to this office or to the nearest United States consul. Envelopes containing proposals must be marked: "Proposals for frozen fresh beef and mutton for fiscal year 1911, to be opened April 5, 1910," and addressed to the undersigned.—D. L. BRAINARD, Lieut. Col., D. C. G., U. S. Army, Chief Commissary.

PROPOSALS INVITED.—Bangkok Sanitary Department.—5,445 tons of cast-iron water pipes and accessories opened April 15, 1910.

PROPOSALS FOR COAL.—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, December 13th, 1909. Sealed proposals, in triplicate, subject to usual conditions for furnishing approximately 65,000 tons of coal to the Quartermaster Department, U. S. Army, during the Fiscal Year 1911, will be received here until 10:00 a. m. May 16th, 1910, and then opened. Information and blank forms furnished on application. F. G. Hodgson, Deputy Quartermaster General, U. S. A., Chief Quartermaster.

the last fifty years of railway development, states that in 1858 300 miles of road were opened and 2,000,000 passengers and 253,000 tons of freight were carried in that fiscal year. On the first of April, 1909, there were 30,983 miles of open line which carried during the year 330,000,000 passengers and 64,000,000 tons of freight. The average rate per mile for passengers was .416 cents gold and about less than one cent gold per ton per mile for freight. There are now employed about 525,000 persons in railway work, and of this number 508,000 are Indians.

REPORT OF CHINESE BOARD OF COMMUNICATIONS.—The annual report submitted by the Board contains the information that there are 8,000 li or 2,700 miles of railway lines open in the Empire and about 60,000 li or 20,000 miles of telegraph lines in operation.

INDIAN RAILWAY SUPPLIES.—According to *Railways* the North British Locomotive Company, Limited, Glasgow, have the contract of the Burma Railways Company for the supply of four Mallet locomotive engines with tenders together with one set of spare wheels and axles. The Cargo Flat Iron Company, Limited, have, we hear, a large order in hand for the supply of bull-headed steel rails and also flat-footed steel rails, of different sections, to the East Indian Railway. Messrs. Dorman, Long and Company, Limited, Middlesborough, also have a large contract from this Railway for the supply of bull-headed steel rails and steel fishplates and flat-footed steel rails with steel fishplates. Messrs. Beyer, Peacock and Company, Limited, Manchester, and the North British Locomotive Company, Limited, are supplying spare or duplicate parts for Metre Gauge Rack Locomotives to the South Indian Railway for use on the Nilgiri Mountain Railway. Messrs. Burn and Company, Limited, have the order of the East Indian Railway for the supply of the iron and steel work for 20 built-up columns, joist beams, complete, girders, and bulb T. bar rafters for the second floor of the south flank of the south block of these buildings. The Patent Shaft and Axletree Company, Limited, are supplying four locomotive engine turntables to the Bengal-Nagpur Railway. Messrs. Stothert and Pitt, Limited, Victoria Street, London, S.W., who have their workshops at Bath, have in hand the manufacture of a steam travelling crane for the same Railway. Messrs. Elliott's Metal Company, Limited, have, we hear, supplied a large number of brass boiler tubes for locomotives to the Bengal-Nagpur Railway. Messrs. J. Levick, Limited, have in hand a very large order for the supply of their well-known carriage fittings to the same Railway. Messrs. Burn and Company, Limited, are supplying the Oudh and Rohilkhand Railway with three Engine Hoists complete with winch overhead pulley and sheave blocks; and are erecting for the Eastern Bengal State and East Indian Railway Companies a waiting-shed each, the former at Diamond Harbour and latter at Serampore station. For Burma, they are supplying 120 iron shutters for the Mon Canal Works; two barges each 60 feet by 20 feet by 5 feet for the Public Works Department, Rangoon; a pontoon swing bridge, and Jetty for Bassein and ironwork for another jetty at Rangoon. In addition to the above, they are supplying steelwork for a suspension bridge at Ootacamund; a dozen corrugated iron roofs for buildings in Calcutta and elsewhere and a large quantity of columns, baseplates, etc., for a local jute mill. The Railway Board have sanctioned the transmission by the South Indian Railway of an indent to England for bridge girders required for renewals on the Salem-Calicut section and Pedanar-Mettupulayam branch.

FORMOSAN RAILWAY NEWS.—Consul Reat of Tamsui reports that the net profit of the Formosan Railway for a little over a year's operation amounted to \$653,695 gold and the following statistics are offered by the railway

department: Total mileage 271.3; value of rolling stock, \$1,319,670, consisting of 54 engines, of which eight are American made, 112 carriages and 826 wagons. Revenue: Passengers, \$615,119; freight, \$755,867; miscellaneous receipts, \$4,424; total revenue, \$1,375,410. Expenditures, \$721,715; excess of revenue, \$653,695. The number of passengers carried during the year was 2,691,033, and the freight carried amounted to 710,460 tons. Persons employed on the line, 2,756; salaries and wages paid during the year, \$281,840. Two extensions of 60 and 41 miles respectively have been proposed in the Eastern and Southern parts of the islands.

TIENTSIN-PUKOW RAILWAY.—There is prospect according to the native press that the Northern Division of this line will be completed to the Whangho by the end of the present year. Up to the Chinese New Year 150 miles were reported complete connecting Tientsin and Techow.

RUSSIA-JAPAN THROUGH TRAFFIC AGREEMENT.—The following statement has been given out by the Imperial Railway Board of Japan:

"As regards the International Through Passenger Traffic, Japan will open it shortly with Russia and in the natural course of events which will not take long to wait for, also with Germany, France and England. Needless to say that this will bring a boon to the travelling public at large.

"But what is of far greater importance would be the establishment of a system of Through Goods Traffic. On a glance at foreign trade returns of Japan, the fact will stand out conspicuously that, next to the United States and China, England stands highest in the volume of trade and is followed in order by Germany, France, Russia and others. The future of Russia-Japan commerce is indeed assuming a brighter aspect, but the absence of facilities for Through Goods Traffic has so far confined the international trade within the bounds of Eastern Siberia only. For communication with European Russia, the roundabout way via France or England has had to be adopted, which route takes 40-50 days for goods to cover, whilst the shortest cut via the Siberian Railway would give a saving of 35-30 days each way, that is to say, would require only 14-15 days."

PHILIPPINE RAILWAY FOUNDRY.—This company has established a foundry at their headquarters, Iloilo, and on the day of the opening this month turned out three tons of castings. The plant has a capacity of five tons a day.

THE KIANGSU RAILWAY.—A report from Hankow is to the effect that a general meeting of the shareholders was held recently and it was decided to invest Tls. 380,000 and to raise a domestic loan of Tls. 2,000,000 to carry the construction to completion.

TIEHLING-HAILUNCHEN PROJECT.—The Chinese Chamber of Commerce at Tiehling has approached Peking through the offices of the Viceroy with a view to receiving imperial sanction to the construction of a line connecting these two points and practically parallel with the Kilin-Chanchun line. It is understood that Peking has dispatched an engineer to make an investigation and report on the feasibility of the project.

JOHORE RAILWAY DAMAGED.—Over 60 miles of this line suffered severe damage from the heavy floods that visited that section during February and traffic was practically suspended. In some places the entire embankment was washed away and entire reconstruction made necessary in some sections. The cost of repairing the line which is about 120 miles in length has not been definitely estimated but will take months to accomplish.

CANTON-HANKOW EQUIPMENT.—Consul Pontius of Swatow gives the following on the equipment of this line:

"With regard to the rolling stock, six American locomotives are already in operation and

FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

ELECTRIC RAILWAYS, POWER, LIGHT, TELEGRAPH, TELEPHONES, AIRSHIPS, ETC.

NIKKO ELECTRIC RAILWAY.—Some difficulty is reported in connection with the construction of the railway connecting Nikko and the Ashio mines, which is expected completed by the end of April. This line was proposed for the purpose of securing the passenger traffic from the Ashio Copper Mines and the Refining Works of Kiyotaki. Heretofore the traffic in passenger and freight was carried by jinrikshas and bullock carts and these interests are engaged in a campaign to force the railway to abandon the construction.

THE PAOSHAN TELEPHONE EXTENSION.—Peking has made objection to the extension by the Shanghai Mutual Telephone Company of its lines into the Chinese district, without, it is claimed, securing the permission of the Chinese authorities.

SHANGHAI-HANGCHOW TELEGRAPHS.—Permission has been granted by the Peking Government for the installation of a direct telegraph line connecting these two points. Heretofore, messages were sent via Swatow.

THE KINUGAWA HYDRO-ELECTRIC PROJECT.—A report from London is to the effect that capital to the extent of yen 20,000,000 has been interested upon the representations of Mr. Jackson. The capitalists will now send representatives to investigate the venture and if the result is satisfactory the development of this plant is practically assured.

WIRELESS FOR THE PHILIPPINES.—A committee comprising representatives, each from the military service, naval service and Insular Government, will soon meet to conclude arrangements for the installation of a complete wireless service throughout the Philippine Islands.

ALL RED WIRELESS.—The recommendations of the British wireless conference with regard to installations connecting up her possessions in the Southern Pacific and Australasia would entail an expenditure of approximately £75,000 and a yearly outlay of £25,000. This would include high power stations at Sydney, Doubtless Bay, Suava in Fiji and Ocean Island, with medium power stations at Tulagi, Solomon Islands, and at Vila, New Hebrides.

PRIVATE WIRELESS AT MANILA.—W. E. Sherman, stevedore, has arranged for the installation of a wireless plant at his home in Manila which is situated on Santa Mesa heights. His purpose is to keep in touch with the liners carrying wireless apparatus making Manila a port of call.

ELECTRIC OMNIBUSES IN SOURABAYA.—The municipality has begun the installation of an electric lighting and power plant and it is proposed to operate a system of electric omnibuses from overhead wires.

WIRELESS IN SIAM.—The representatives of the United Wireless Telegraph Company of New York have been negotiating with the Siamese Government with a view to installing ten stations there. The Marconi Company is also interested. The United Wireless offered to make the installation for Ticals 80,000.

ELECTRIC LIGHT PLANT FOR CHANGCHUN.—Consul Cloud of Mukden has reported that an American Company is negotiating for a concession to instal an electric plant at this point to cost approximately Tls. 125,000.

SEARCHLIGHT INSTALLATION AT CORREGIDOR.—An appropriation of \$139,200 gold has been asked for to pay the cost of installation of ten large searchlights on the fortifications at the entrance to Manila Bay and Subig. Of these lights the largest will be about 60 inches.

SIAMESE AND TELEGRAPH WIRE.—The disposition of the Siamese natives in outlying districts to utilize pieces cut from the telegraph wires for repairing bullock carts, plows, etc., makes the service very irregular, says the *Siam Press*.

CHINESE POST AND TELEGRAPH SCHOOLS.—The Peking Government has decided to open schools at an early date for the training of operators under Chinese management.

PUBLIC WORKS, DOCKS, WHARVES, ETC.

WHANGPOO CONSERVANCY REPORT.—The statements of receipts and expenditures submitted to the Shanghai General Chamber of Commerce show that up to December 31st, 1909, the total expended amounted to Tls. 4,416,337.10. Besides this amount the Conservancy Board is pledged for the following amounts:

	Sh. Taels.
(1) Unpaid balance of old dredging contract.....	875,000.00
(2) Unpaid balance of the Fort Jetty contract.....	529,416.00
(3) Amount of the recently signed dredging contract.....	264,000.00
(4) Principal of 4½ million loan...	4,500,000.00
(5) Balance of interest on the 4½ million loan.....	3,274,409.74

TANJONG PAGAR WHARVES.—The first portion of the reconstructed wharves formerly known as the Borneo Wharf has been opened. It will be known as the West Wharf.

SOME JAPANESE PUBLIC WORKS.—The following projects were considered by the diet in connection with budget:

	Yen.
The car-ferry at Shimonoseki (1910 to 1915).....	12,000,000
The Kobe breakwater (1910 to 1914).....	2,870,000
The Kure torpedo experimental station (transfer) (1910 to 1911).....	214,300
Big gun range at Kopho (1910 to 1911).....	280,385
Works in Changhai Bay (1910 to 1919).....	8,135,159
Contrivances for cooling powder chambers on board ship (1910 to 1911).....	3,500,000
Raising of the Matsushima (1910 to 1913).....	170,000

Besides the above is the expenditure of over yen 8,000,000 in the establishment of a new naval port in Changhai Bay, Korea, and two military stations one at Port Lazaroff for barracks and a gun range at Kopho. The appropriation is spread over ten years.

CHINESE GOVERNMENT PAPER MILL.—The construction of the Government Paper Mill at Hankow is under way and will be completed at the end of the year. All kinds of paper, including paper for bank notes, will be manufactured here.

16 are in stock. They are six Moguls of 102 tons, the cylinders of which are 19 by 26 inches, the coal capacity 9 tons, and the water 5,000 gallons. There are four Manhattan locomotives being used in construction work; these engines were formerly in service on the elevated railways in New York City. There are also six double-tender tank engines of 50 tons, which are engaged in running the freight and passenger trains to railhead.

"The Mogul engines have just appeared on the road, and they will certainly inspire the Chinese of the interior when they go out for duty. The foreign engineer in charge and his men are proud of the fact that they have got these big engines together in 11 days from the unpacking of the first case.

"Of coaches and freight cars there are 30 American-type passenger coaches, one directors' car, 72 American freight cars, and 106 China-made freight cars. At the works at Wongsha three first-class compartment coaches are now being built, as well as three second-class coaches, and four third-class coaches, the steel underframes having been set out from America.

"In the future much of the superstructure of cars will be built by the Chinese themselves, and a change is to be made with regard to bridge construction. Whereas the practice has been to import the bridge from England or America all ready for erection, future bridges will be made from material imported in the rough. The mechanical department at the head station at Wongsha, which is exceedingly well equipped, the latest machines having been imported from Great Britain and America, is capable of turning out all manner of work. At present the machines are in temporary sheds, but permanent shops will shortly be erected."

KIRIN RAILWAY PROTEST.—The Chinese gentry recently held responsible for the anti-Japanese boycott in Manchuria have filed a protest against the joint construction and control of the Kirin-Chinn-tao Railway by Japan and China under the recent agreement. It is believed, however, that the differences will be amicably adjusted.

BAGUIO SPECIAL SERVICE.—The Manila Railway Company has arranged a special service to Baguio on Tuesdays, Thursdays and Saturdays, the trip to Camp One being made in 7 hours and 20 minutes. The round trip to Baguio good for six months including automobile service is P30.90 for the season.

ANTUNG-MUKDEN RAILWAY CONSTRUCTION.—The latest advices from this important construction are to the effect that great difficulty is experienced in boring the Funchinling tunnel 4,880 feet long, the longest on the line. At about 370 feet from either end the hardest kind of rock was encountered and the progress has been slow. However, the contractors believe they will finish the work at least five months previous to the date of the contract. About 200 men are employed on this particular work.

THE SHANTUNG RAILWAY.—The service on this railway is constantly being improved and there has been a marked response in increased traffic. Last year the rolling stock was increased by two locomotives, several baggage cars, twenty coal cars and ten covered freight cars besides a few tank cars. Tsingtau and Tsinanfu have had the benefit of a fast train daily since last October. Among the improvements along the line is the building of a number of good hotels which has greatly encouraged passenger traffic.

OBITUARY

The death of Mr. Kenneth D. Tweedle of the engineering staff of Messrs. Jardine, Matheson & Co. was reported from Peking the latter part of last month. The deceased was prominent in engineering circles. Since 1905 until about six months ago, he was assistant locomotive superintendent of the Shanghai-Nanking Railway when he accepted a position with Messrs. Jardine, Matheson & Co. at Peking.

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SHANGHAI MUNICIPAL PUBLIC WORKS ESTIMATES.—The extraordinary expenditure for the current year is estimated at Tls. 592,401 and will include the amounts necessary to construct a bridge over the Yangkingpang between the two bunds, a rifle range, and the site for a second school for Chinese.

PHILIPPINE IRRIGATION.—Over 700 men are employed by the Bureau of Public Works on the irrigation project in Tarlac province involving 6,000 hectares of 13,500 acres of land, covered by main and lateral canals. The sum of ₱300,000 has been appropriated for the work.

BRIDGE BUILDING IN INDIA.—The Eastern Bengal Railway has completed the plans and specifications for the construction of a bridge across the Ganges with a total length of 5,600 feet, comprising 15 spans 360 feet in length with a height of 65 feet above low water. The main trusses will be 32 feet apart from center to center, and each pier will be laid on steel caissons measuring 3 feet by 36 feet. The wells will be sunk 150 feet and a concrete plug placed at the bottom, then filled with sand, and a cap of concrete put on top. The construction will be carried out by the Government.

YOKOHAMA-TOKYO CANAL.—Yokohama financiers are interested in promoting a project for the construction of a canal connecting those two points and advance the argument that it would greatly reduce the cost of transport of freight which had heretofore to go in lighters. The distance is only 16 miles, yet it takes on the average two days to transfer goods to Tokyo under present conditions. The canal will be built along the sea coast if present plans are consummated.

DAIREN WHARVES.—The present daily capacity of the wharves is estimated at about 9,000 tons and it is the purpose of the authorities to increase it by an additional 8,000 tons when the East Quay is finished.

PHILIPPINE ARTESIAN WELLS.—Under the direction of the Bureau of Public Works 150 wells have been drilled throughout the provinces; the Quartermaster's department has drilled 25; and 160 have been sunk by the provincial authorities. The deepest bore made was near the Taal volcano in Batangas where the well was sunk to a depth of 1,046 feet. The result of the use of this water, which is of the purest quality, has been a marked reduction of the mortality in every section where they have been installed.

NEW MANILA BRIDGE.—The Municipal Board has been negotiating for the purchase of the land on either side of the river with a view to constructing a bridge connecting the districts of Sampaloc and Pandacan at an expenditure of approximately ₱50,000. This will greatly expedite traffic between the two sections of the city and shorten the distance to the downtown district from Santa Ana and Pandacan.

WATERWORKS AT CHANGCHUN.—The South Manchuria Railway Company is preparing plans for the installation of a water supply system within the railway zone to cost approximately Yen 400,000.

BANGKOK PUBLIC WORKS.—The Public Works Department has sent an engineer up the Nan River for the purpose of blasting out rocks that obstruct the channel used by passenger boats at the town of Nan. The work will mean a large expenditure, but will greatly facilitate the carrying of freight at reduced cost.

VLADIVOSTOK FORTIFICATIONS.—It is reported that the Vladivostok military authorities have placed an order for 70,000,000 bricks at the rate of \$10 gold per meter for the purpose of enlarging the fortifications and construct additional barracks.

SHIPBUILDING, MERCHANT MARINE AND FISHERIES

LIFTING CRANE FOR THE MITSU BISHI DOCKYARDS.—The large crane having a capacity of lifting 180 tons and which cost yen 700,000 has been installed at the Dockyards of this company at Nagasaki. The crane has a height of 270 feet.

STEAM TRAWLER CONSTRUCTION IN JAPAN.—A merchant of Kobe has made application for subsidy in accordance with the deep sea fishing subsidy law in connection with a steam trawler of 300 tons ordered from the Kawasaki Dockyard.

THE CHINA AND MANILA STEAMSHIP CO., LTD.—The annual statement shows a profit on working of \$26,971.54 Mex. and after paying interest and other charges, a debit balance of \$3,777.33 was carried forward.

THE KOCHIEN TRANSPORTATION AND TOWBOAT COMPANY.—The profit for the year amounted to Tls. 32,745.57 after writing off for depreciation. Out of this a dividend of seven per cent was directed paid and a balance of Tls. 7,055.58 carried forward.

CHINO-BELGIUM STEAMSHIP ENTERPRISE.—The formation of a company with a capital of francs 20,000,000 has been proposed by Belgian and Chinese capitalists for the purpose of inaugurating a service between Antwerp and Shanghai. The matter has been referred to the Board of Posts and Communications.

LIGHTHOUSE NEAR SWATOW.—The erection of a new lighthouse on Chiliang Point near Swatow is underway and another light at Pinghai Bay is proposed for the benefit of the carrying a trade through the Haitan Straits.

SIBERIAN FISHERIES.—The Governors of the Amur and Coast provinces, where there has been unusual development of the fisheries, have made a request on St. Petersburg for a flotilla of torpedo boats to patrol those waters. It is understood that the request will be granted and the flotilla dispatched to Vladivostok in June.

TSINGTAU'S NEW STEAMSHIP CONNECTION.—It is understood that the Hamburg-American line will make Tsingtau a regular port of call instead of the former irregular connections. The P. & O. has made Tsingtau a port of call on the home trip to Europe. This arrangement has been of great benefit to the straw-braid shippers.

PACIFIC MAIL.—The *San Francisco Call* announces that this company proposes to divert several of its steamers to the trade from Puget Sound and that the company is to build two ocean piers on the Oregon and Washington's water front property, as well as accommodation for freight at a cost of \$750,000.

THE TENYO MARU SPEED TRIALS.—After eleven months active service this vessel, built by the Mitsubishi Dockyards at Nagasaki, completed six trial runs over measured distances on Feb. 8th, making an average of 20-167 knots and on the following Tuesday making an average of 20.3565.

PACIFIC NAVAL NEWS.—The Cruisers *West Virginia*, *Maryland*, *Pennsylvania* and *Colorado* have been ordered to San Francisco for repairs and alterations, which will represent an expenditure of over a million dollars.

FIRST STEAMER OF C. M. & ST. PAUL LINE.—The *Tacoma Maru*, of the Osaka Shosen Kaisha, arrived at Manila from Tacoma the last of February inaugurating the through four week service from Tacoma of this line of steamers connecting with the Chicago, Milwaukee and St. Paul Railway.

JAPANESE BATTLESHIPS.—The *Konochi* now in the process of construction at Yokosuka is expected launched next October. Her displacement will be 20,750 tons with a broadside battery of ten twelve inch guns and secondary batteries of six inch. Her speed will be 20 knots.

THE SIAM STEAM NAVIGATION COMPANY.—The report for the last half year showed a net profit of Ticals 159,127, out of which a dividend of 5% making 10% for the year was declared, and Ticals 1,632 carried forward after carrying Ticals 10,000 to the Reserve.

NEW GERMAN RIVER GUNBOAT LAUNCHED.—The *Otter* which was launched from the Shanghai Dock and Engineering Company, Ltd.

had her speed trials, February 28th, outside Woosung, making an average of 14.5 knots. She will be utilized on the upper reaches of the Yangtze during the summer months. The vessel was constructed by J. C. Tecklenborg & Co. of Geestmunde and the engines supplied by the same firm. The re-erection at the Docks was under the supervision of Mr. Max Biese, representing the German firm. The machinery consists of two Schultz tube boilers with a working pressure of 16 kilograms to the square centimeter. It supplies two sets triple expansion surface condensing engines making 360 revolutions per minute. The Shanghai Dock and Engineering Company, Ltd., completed the work in much less than contract time.

CABLESHIP RIZAL IN COMMISSION.—This vessel purchased at Singapore by the Bureau of Navigation called at Cowie Harbor and took on 2,500 tons of coal for delivery at Iloilo and Manila, where she will go into commission in connection with the repair of Interisland cables.

BURMA PEARLING.—The returns for the year show but 42 tons of mother-of-pearl, 69 tons of green snail, one-half ton of trochus shell and four tons of sea slugs. New regulations have been issued regulating the leasing of areas for the cultivation and saving of these shells which may have the result of encouraging the industry.

SINGAPORE SHARK FIN TRADE.—Consul General Dubois directs attention to trade in shark fins to the value of \$157,753 gold from Borneo, Ceylon, Penang, Madras, Celebes, etc., enjoyed by Singapore. Half of this import is reshipped to China.

KOREAN WHALING INDUSTRY.—The Oriental Whaling Company, which employs 85 Japanese and 18 Koreans, operates off the southeast coast of Korea and it is proposed to increase the capital and extend operations. Consul Gould of Seoul reports a half month's catch of 13 whales at \$43,000 gold.

JAPANESE FISHERIES.—In a recent discussion in the Diet one of the delegates stated that this industry was slowly developing and that the annual production would reach 100,000,000 yen annually. He claimed that the most important line was the sardine industry, next to which came the bonitos. The Government had assisted 137 ships for pelagic fishing. Of the fishing boats 411 were utilizing petroleum motors.

MINES, MINERALS AND THE METAL TRADE

SIAMESE TIN INDUSTRY.—General Manager Scott of the Siamese Tin Syndicate, Ltd., in his report for the past year of investigations made by him makes the statement that one prospect has been examined that looks very promising covering about 280 acres of ground with a depth of 34 feet and averaging approximately 19 cents gold a cubic yard, and expects to report favorably on an additional 350 acres upon which boring is now in progress. He believes the company may rely on at least £600,000 worth of tin that may be worked at a profit. There are other prospects, but only one or two have been worked at a profit.

JAPAN'S COAL EXPORT.—The returns for the month of January show a total of 1,691,948 tons exported as against 1,396,743 during the corresponding month 1909.

JAPAN'S TARIFF ON MINERAL OILS.—The tariff has been fixed at 1.23 yen per kin (1.32 lbs.) on all mineral oils and crude petroleum is placed under the same heading. This protection is the result of the development of the industry in Niigata Prefecture where 1,300,000 yen worth of machine oil and 1,370,000 yen of crude petroleum were produced annually.

GOLD IN SUMATRA.—The report submitted to the shareholders of the Siam-Kedah Exploration contains a promising future for its operations in Sumatra, where it owns a concession on the South East Coast covering over 15,000 acres. Another gold property in the vicinity has paid 100 per cent. on investment and the Dutch Government has secured excellent results from prospecting in that region.

SHANTUNG MINES REDEMPTION.—A native report is to the effect that the Shantung gentry have agreed to raise a fund of Tls. 3,000,000 to redeem the five mines worked by the Germans in that province.

SERENDAH HYDRAULIC MINE.—The net profit for the year 1909 was \$97,295 and a final dividend of 5% making 10% for the year was paid. A crushing plant costing \$5,544.30 was installed during the latter part of the year.

MALAYA COAL MINES.—Development work on the deposits at Rawang are progressing, shafting and tunneling being pushed. According to reports six acres have been tested and found to represent deposits up to 600,000 tons. The upper surface contains some shale, but as the shaft descends purer coal is found.

IRON INDUSTRY IN JAPAN.—The total demand annually in Japan reaches approximately 750,000 tons, of which 140,000 tons are supplied by home production.

GRAPHITE IN SIBERIA.—A company has been formed to develop graphite deposits in Yenesei province where rich deposits have been discovered. It is estimated that it can be marketed at a cost of four kopeks a pound.

FUSHUN COAL TO PENANG.—A shipment of Fushun coal amounting to 4,000 tons was made last month on the Collier Eskdale from Dairen.

THE MADJAN MINING COMPANY.—According to the *Mining Journal* a meeting of this company was held at Batavia in December, at which the report of the engineer on investigations made was presented. His report places the average assay from test taken on the ground at 22.5 cents gold per cubic meter and the cost of dredging at eight cents gold a cubic meter. The concession covers 300 acres, of which 200 acres are considered paying ground. A dredger with a 32,000 cubic meter capacity per month and costing £10,000 was recommended and it is believed there is sufficient ground to occupy it continually for 13 years. This will be the pioneer dredge to operate in the Dutch Indies.

MANCAYAN COPPER DEAL.—The representatives of the Tellus Company of Frankfurt on Main, Germany, have completed preliminary investigation of the property upon which the company holds options from the Lepanto Mining Company. One of the representatives has returned to make his report. It is understood that the Tellus Company is considering the advisability of investigating two other groups of claims connected with these extended deposits outside the options held by the Lepanto Mining Company.

F. M. S. TIN EXPORTS.—The total exports for January were 65,692 pikuls against 73,611 for the corresponding month the previous year.

THE PEKING SYNDICATE OUTPUT.—The January output of coal amounted to approximately 25,000 tons.

FINANCIAL, COMMERCIAL AND MISCELLANEOUS

JAPANESE IN KOREA.—Census reports place the number of Japanese in Korea at 150,000 and the value of their holdings at yen 147,000,000.

INDUSTRIAL SCHOOL AND COMMERCIAL AND INDUSTRIAL ASSOCIATION IN FORMOSA.—An industrial and mechanical school is projected at Taichu in central Formosa and will be inaugurated during the year. In the capital city of Taihoku the businessmen have formed an association with a bureau of information for the purpose of answering inquiries with regard to industry or commerce.

CHINESE WOOLEN FACTORIES.—The following is an excerpt from the report of the British Commercial Attaché at Peking:

"A new move is about to be made in the introduction of woollen clothing for the modern drilled army of China, and this may possibly prove the first step toward the more general adoption of woollen clothing throughout the country, a result which followed the same action in Japan. Unfortunately for the British manufacturer, there are indications that China means to supply her own demands in this re-

spect. Two Chinese woollen factories have been recently established, which will deal with the requirements of the army board for woollen clothing. One is at Shanghai, a large building fitted with up-to-date Belgian machinery and employing at present several Belgian operatives to teach the Chinese students. I am told that this factory is capable of turning out sufficient clothing for 1,000,000 men. The other was established in 1908 at Chingho, about 6 miles from Peking. It is well equipped with British machinery and employs three or four British operatives. If the civilians of China show any inclination to follow the lead of the army in wearing wool, there is little doubt that the number of such factories will increase. It is perhaps too early to predict an opening in this connection for Bradford tops, but it must be remembered that a demand for tops followed close on the establishment of woollen manufacturing in Japan."

NANYANG EXHIBITION.—Japan, Germany, England and the United States were each allotted 5,000 square feet in the buildings reserved for foreign exhibits.

THE AMENDED JAPANESE BUDGET.—The amendments reduced the revenue by yen 8,031,966 and the expenditure by yen 3,555,939 making the grand total in either column yen 530,439,573. There was a decrease made of yen 4,617,000 in the land tax and an increase of yen 1,008,000 in transit duties. The following were the principal items in expenditure cut down:

146,500 yen, proposed increase of allowances to the Peers, rejected; 191,500 yen, proposed increase of allowances to the representatives, rejected; 1,034,657 yen, curtailment made on the expenditure for provisions and provenders army; 75,140 yen, curtailment made on the expenditure for provisions and clothing (Navy); 129,351 yen, curtailment made on Prison Expenses (Justice); 15,036 yen, Expenditure for the dispatch abroad of a commission by the Residency-General for the study of judicial affairs system (Army), rejected; 15,000 yen, curtailment made on the Secret Service Fund for the Korean Garrison (Army); 92,556 yen, curtailment made on the Hydro-Electric Power investigation expenditure (Communications); 14,000 yen, curtailment made on the travelling expenses of the Kwangtung Government-General; 20,000 yen, banquet expenses for the Kwangtung Government, rejected; 100,000 yen, expenses for the construction of Formosan Government buildings, rejected; 80,000 yen, curtailment made on this year's installment of the Arisan Forestry Expenditure; 40,000 yen, curtailment made on the *Sakura Maru* subsidy.

F. M. S. BANKING FACILITIES.—The Chartered Bank of India, Australia and China has opened branches at Klang and Seremban and will soon inaugurate a branch at Tongkah. The Hongkong and Shanghai Banking Corporation has opened a branch at Kuala Lumpur and in Malacca and the Mercantile Bank of India has also established at Kuala Lumpur.

MANCHURIAN BEAN CRUSHING FACTORIES.—In this department of industry the Japanese have invested yen 500,000 and the Chinese Tls. 1,139,000 and at least 39 factories are now in operation.

INDO-CHINA TRADE.—The foreign trade for 1908 amounted to francs 468,000,000 as against francs 481,000,000 in 1907. The largest item of export is rice, of which 1,234,000 tons were exported in 1908.

TURPENTINE IN SAGHALIEN.—Experiments made by the Japanese government have resulted in great interest in the forests of pine suited to the extraction of crude turpentine, of which there is reported to be wood available to the extent of 60,000,000 cubic tons and it is proposed to deal with the area on a system of 100 years rotation making the supply inexhaustible.

CREDIT FONCIER D'EXTREME ORIENT.—This is the new title adopted by the Société Franco-Belge de Tientsin of Brussels since it increased its capital from £200,000 to £400,000 by the issue of 20,000 new £10 shares. It has also been

decided to raise a loan of £400,000 at 4.5% in the form of obligations.

FAR EASTERN MEDICAL ASSOCIATION.—A most successful meeting of this society was held during the early part of March at Manila at which representatives attended from every section of the Far East. The next meeting will be held in Hongkong.

PERSONAL AND GENERAL

Major Frank McIntyre, assistant chief of the Bureau of Insular Affairs, has been appointed to represent the Government of the Philippine Islands on the Board of Directors of the Philippine Railways. Mr. Paul Charlton, consulting lawyer of the Bureau, has also been named as representative on the board.

Mr. Charles Swift, President of the Philippine Railway Company and the Manila Electric Railway and Light Company, arrived in Manila last month and has been visiting the island of Cebu and Panay on an inspection trip over the company's lines there. Later he visited Baguio. He was the guest at a dinner in his honor at the Manila Polo Club at which Vice-Governor Gilbert was present with the staffs of the two railway companies. He was referred to as the pioneer American capitalist who had shown his faith in Philippine investment and responded to the effect that his faith was renewed and stronger than ever in the islands' future.

Sir Clifton Robertson, representing the financial interests of the British capitalists interested in the Manila Railway Company, has been visiting the Philippines for the purpose of inspecting the lines and investigating the proposed extensions.

Mr. Frank L. Strong, a leading Manila merchant, returned early this month from a tour round the world. He has been absent from the Philippines from July, 1909, and during his trip combined business and pleasure. He spent most of the time in the United States at the principal manufacturing centers and in New York City. He reports a great awakening of interest throughout the United States in the Far East. He returned with his family via Europe calling at the principal points en route.

Mr. H. T. Anstruther, British representative on the Council of the Suez Canal, and Mr. Ingham, manager in London of the Russo-Chinese Bank, have been appointed directors of the Peking Syndicate.

Mr. D. P. Ricketts, District Engineer, Shan-haikwan, of the Imperial Railways of North China, has succeeded to the position of Engineer-in-Chief and General Manager to succeed Mr. Kinder.

H. I. H. Prince Tsai Tao has been appointed High Commissioner to represent the Peking Government abroad on a tour of investigation and study of the military systems of Europe and America.

Mr. J. D. Clark, of the Shanghai Mercury, has been notified by the secretary of the British Institute of Journalists that he has been elected a Fellow of the Institute.

Mr. C. Dyer, representing the Honolulu Iron Works, has been visiting the Philippines in the interests of his company. He returned early this month with plans and estimates of the machinery and plant to be installed by the Pool Syndicate on its sugar estate in Mindoro for the installation of which the Honolulu firm has secured the order. This company has installed a number of large mills in Formosa.

The partnership existing between Alfred C. Lutz and Hans R. Lutz under the firm name of Lutz & Co. of Manila has been dissolved and the business will be continued under the same firm name by Mr. Alfred C. Lutz with Mr. Fritz Muller as manager.

Mr. P. Tilley, of the firm of Messrs. Tilley and Muller of Shanghai, has sold his interest to Mr. E. J. Muller, and retires from the business. Mr. Muller will continue the business in his own name.

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